TRANSACTIONS

OF THE

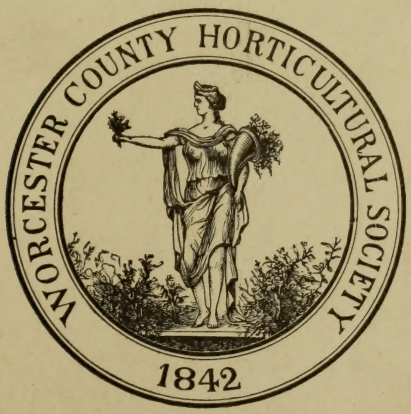
WORCESTER COUNTY

HORTICULTURAL SOCIETY,

FOR THE YEAR 1886,

WITH THE

CATALOGUE OF THE LIBRARY.



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WORCESTER COUNTY
HORTICULTURAL SOCIETY.
A. D. 1886.

ANNUAL REPORT OF THE SECRETARY.

To the Members of the
Worcester County Horticultural Society.

It is not the fault of this Society that the experiment of holding Exhibitions every week, throughout the later Winter and early Spring, has been crowned with but partial success. Of necessity dependence must be placed upon professional florists, whose wealth of floriage has been largely exhausted by the demands of society or fashion. Amateur and private conservatories are not in such plenty as to afford much assistance in our time of need; even were their owners always inclined to strip them of their chiefest beauties to help out a brief display in our halls. It is not to the point that a dozen Baldwins, or Roxbury Russets, are available to illustrate the duration of the apple, since no one disputes that they may be kept the year around. We must not forget that the design of our creation as a Society was, and so continues, to "improve the Science and Practice of Horticulture." You must determine whether it is worth our while to invite the community to an exhibition one week, of a half-dozen plants of *Primula Sinensis;* the week after to an equally extensive display of *Arum;* closely followed by a test of how low the temperature to which *Azalea Indica* may be subjected and yet survive the exposure!

It occurs to your Secretary if it would not be advisable to try an experiment of holding Exhibitions once each month, until

the season for Roses and Strawberries:—commencing say about the period of the vernal equinox, so as to be secure as far as possible from undue risks of intolerable frost. Those who would like to compete for our prizes can conform their methods of cultivation to our appointed dates. We cannot suit the caprices or interest of individuals; nor should the attempt be suffered for an instant. Mahomet must go to the mountain. In this way it might perhaps be practicable to present displays in March, April and May, creditable to all who aid in their formation, and of which the Society need not be ashamed. June can be trusted to take care of itself. This plan contemplates the withholding of all premiums for fruit except in Summer and Autumn—the seasons of maturity and perfection. If "good wine needs no bush," it can scarcely be claimed that the Hubbardston and Northern Spy require further recognition, out of our limited resources, than that awarded to them in such generous measure during October. Your Secretary, cherishing no other motive than a sincere desire for your best interest, advances this suggestion in barest outline, to be filled up by the proper committee, should it find cordial acceptance. In actual trial it might not achieve success. But we have high authority for "proving all things." The time for "holding fast" is when we have complete assurance that our grip is on something good.

This *Society* possesses a Library, whose intrinsic value cannot be exaggerated; or its importance, as a means for the continued development of Floriculture and Pomology, overestimated. There is probably but one other in this wide Republic that exceeds it, and that perhaps because of mere numerical superiority as much as for any better reason. For our good fortune, in this particular, we owe grateful memory to the late Clarendon Harris—so long our assiduous and faithful Librarian—whose rare acquaintance with books was supplemented by earnest zeal in your service. His successors have done what they could to maintain the character of the collection. Your Committee on the Library, mindful that volumes are useful in proportion as a knowledge of their contents is diffused, have taken heed to your suggestion at the last annual meeting, devoting thought and time to the sub-

ject of preparing a complete catalogue. Thanks to the untiring diligence of Mr. Brooks, a full list of titles and subjects is now ready and, with your approval, it will be in print as soon as a due regard for accuracy will allow. The Committee propose to keep close watch of the book-market; so as to avail themselves, in your behalf, of the rare opportunities to perfect those sets of serial publications in whose pages may be found so much curious and useful lore pertaining to our pursuits. There are many works that exceed in cost the means of individual horticulturists, yet which are essential to a full and thorough mastery of their profession; and which ought therefore to become our property whenever the chance presents itself.

An Act has passed both branches of Congress and received the approval of the President, establishing Pomology as a division in the Department of Agriculture. The extent to which any such Division or Bureau shall become useful, must, of course, depend largely upon the personal qualities of its chief. The first and present incumbent, Mr. H. E. Van Deman, of Kansas, talks well; manifesting in an address before the new American Horticultural Society a clear perception of possibilities and expediencies. Thus he remarks:—

"Perhaps one of the most useful things that might properly be undertaken by the Division of Pomology, provided means are given for that purpose, would be the establishment and maintenance of experimental stations, where they would best serve the greatest number, and at the least cost." * * * * * * *

"Private experimental grounds already under way, and those of the Agricultural Colleges, might, at least in some cases, be enlarged, assisted, and utilized." * * * * * *

"The production and consumption of fruits, both fresh and cured, is in value perhaps scarcely less than that of the cereals, and it is only fair that similar attention be given in the collection of information and its proper discrimination. Foreign markets should also be investigated with a view to benefiting the home producer." * * * *

"Careful investigations of new fruits, and old ones of a special interest, and their adaptability to the various sections of our country, deserve prompt and personal attention by those who may be skilled in pomological matters. The same person should examine our fruits as they are found growing under the diversified conditions of soil, climate, and culture." * * * * * * * *

This evangel is not wholly novel to you, nor should it fall upon your ears with an unfamiliar sound. Two years since, in his Annual Report for 1884, your *Secretary* gave expression to his own deeply-felt convictions of a similar pressing need:—

"All these problems are speculative,—hypothetical,—exacting experiment for a test. Some of them may well be tried in Amherst; yet location cannot but enter into the accurate determination of others. Why should not this great Pomological County have an Experiment Station of its own, devoted exclusively to the solution of difficulties in Horticulture? The State Bounty to our local Agricultural Societies might well be devoted to its support. For ampler sustenance a portion of our own income could find no more profitable use, thereby most effectually

'Advancing the science and encouraging and improving the practice of Horticulture,'

the explicit object for which we were incorporated, as so often pressed upon your attention in these Reports. The Peach is grown, with greater or less success, in all our lacustrine Towns.* Wheresoever its culture falls short, or fails, such a Station might detect the trouble and discover its remedy. Individual research, or trial, is apt to be unilateral or prejudiced: Science is many-sided and impartial; seeking for truth, if mayhap at the bottom of a well. We now grow much fruit and vegetables with marked skill and success. Is it not our own fault if we omit to avail ourselves of every appliance and method that may serve to detect and explain the latent reason for too frequent failures. The Agricultural Societies are even now legally constrained to hold Institutes, by way of some practical return for the State Bounty. Too often it is like threshing an old bundle of straw. Few pause in the course of hard, daily labor, to note the reasons for success or failure; and, if the mind begins to speculate upon the knotty problem, the thread of inquiry is apt to be lost in the first night's sleep. Fewer still are qualified by natural bent, or by training, to follow a path of original research, usually intricate, mainly obscure. and where the clue is either invisible or impalpable. For all such investigation,—whether of Insect or Fungus;—which shall teach us to know our Insect Friends from our Insect Foes; determining the cause of Yellows in the Peach or Blight in the Pear; something more searching and precise is needed than the occasional conference of friends and neighbors. Something more like the keen analysis and

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* Grafton and Shrewsbury at the foot and by the shores of Quinsigamond,—where, as by the inland Lakes of Central New York, the Grape and Peach have flourished for aye; and upon whose opposite slopes and hill-sides, in conjunction with the projected School of Natural History, a Horticultural Experiment Station could be essayed to the utmost advantage, at the least cost, and with the most effective and sure co-operation. E. W. L.

tireless watch of the acute student of Nature, who takes nothing for granted; but, having discovered the origin and source of disease, is not content until he has also found a perfect remedy. He alone can 'prove all things, holding fast that which is good.'"

The appropriation for the purposes of the Agricultural Department has been somewhat meagre, in years past. Nor, during that period, was the sum given always expended with the best discretion and due economy. Commissioner Coleman appears to be *totus teres atque rotundus;* fitted by nature as well as adjusting himself to his place. He wastes neither resources, nor time; and is watchful of his opportunities. Your Secretary must be permitted to differ from some of his friends in the Grange; being firm in the faith that the Agriculture of the Republic, properly considered, affords a field wide enough for the exercise of any man's talents. And that a position in the Cabinet must inevitably divert his attention to questions wherewith he need not, and cannot profitably, concern himself. Magnify his office, styling him Minister of Terræculture, if you like! multiply his functions, when you must! but do not neutralize his efforts for the United States by dissipating them throughout the earth. The Department cannot always be directed by statesmen! with ambition exceeding their capacity; even the contingent from Essex being limited in number and the duration of their existence falling wofully short of immortality.

The *Worcester Grange* nobly achieved what it well and wisely undertook. It proposed to itself a certain aim: an accomplished superiority in Massachusetts, within well defined limitations. But yet is it pretended that the Grange thereby attained the earth and the fulness thereof? It is not so understood in their case; as neither was it left for speculation by a late Grand Incoherence who, speaking for his constituents, owned frankly that they do want the earth and—mean to have it! But to all Grangers, or Incohonees,—alike; as to the horticulturists, *in partibus infidelium;* are repeated in their ever sad refrain, the

"Words of the Preacher, the son of David, king in Jerusalem:

The thing that hath been, it *is that* which shall be; and that which is done *is* that which shall be done: and *there is* no new *thing* under the sun.

Is there *any* thing whereof it may be said, see this *is* new? it hath been already of old time, which was before us.

There is no remembrance of former *things;* neither shall there be *any* remembrance of *things* that are to come with *those* that shall come after."

So that neither shall the uninitiated Horticulturist exalt himself,—nor the Granger feel abased;—as they recur to a Report made by *Dr.* Rufus Woodward thirty-four years ago, wherein that conceded expert declared that "the whole number of varieties presented to the notice of your committee, was Two Hundred and Fifty-Six; a larger number, we will venture to say, than has ever come under the notice of any former Committee. Of these, one hundred and twenty are well known, valuable varieties, hardy, productive, and in every way adapted to our soil and climate."

Two years later, but still a generation removed from us, George Jaques,—than whom this Society never enrolled a more skilful Pomologist; reported upon the current exhibition (A. D. 1854):

"The Exhibition, in the department of apples,—was exceedingly rich and beautiful. The Committee indeed, are of the unanimous opinion that, not only in the number of varieties* of established reputation, but in the size and beauty of the specimens, the display of this great staple fruit was superior to anything of the kind ever before witnessed in this city." * * * * * * *

"And, although it is quite probable that, in one or two of the collections, there may have been a very few apples not grown within the above-mentioned limits, yet the number of these was so utterly insignificant, that the Committee may rightfully claim *the entire exhibition of apples as the product of Worcester County.*"

It was scarcely an exaggeration—a remark at the late show of the Bay State Society, that about every farm in Worcester County could exhibit its own Seedling Apple. That is as true now as in the olden time when, as wrote *Dr.* Woodward, "there are growing obscurely, in this County, several apples deserving to be more extensively known. Among such might be classed the Forbush Apple, the Sutton Beauty, and the Harvey, both cultivated by Mr. Joel Knapp, of Sutton, Hunt Russet, Capron's Pleasant, and probably others."

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* The number of plates of apples was 960: contributors, 107.

Within a few years, the Worcester Spy of Mr. William Eames has earned its place upon our Schedule. Seedlings of Mr. Thomas A. Dawson afford extreme promise, alike of quality and beauty. May we not hope that the existence of such new varieties will be carefully noted, henceforth; their peculiar merits observed; that they may be brought to this Hall for a test by experts, of their points of pre-eminence, so that all men shall be obliged to concede a superiority once thoroughly established. A new variety of fruit, of surpassing excellence, is at once a credit to him who originates and the place whence it springs. The fame of Worcester County is widely diffused among the Pomologists of America. But that repute may be augmented. That it shall be, must depend largely upon the well directed ambition and sustained energy of the members of Societies like our own, whose existence is avowedly for "the purpose of advancing the Science and encouraging and improving the Practice of Horticulture." And there must be, surely, more effectual ways of promoting such advance and improvement than what are limited to perennial awards of money prizes to the Bartlett and Baldwin! *O, si sic omnia!*

Little has been added to our positive knowledge of the Pear Blight, within the year just past; if indeed any knowledge can be termed positive, where at best it is but more or less plausible theory. The Blight we have: its causes are still a mystery. The evolution of Bacteria is not a sufficient explanation of this mysterious disease. That they may follow from it and be an evident effect, is plainer to many close observers. Quite recently,—Professor Arthur is credited with writing to England to learn the truth and facts of a statement by a British Pomologist, that a tree had blighted when the rays of the sun struck its limbs after they had been wet with rain. Ampler and more decisive details, to that effect, might have been gathered, nearer home. It were hardly necessary to cross the ocean to determine so little. In almost every instance within the observation of your Secretary,—and his personal experience has been grievous enough,—the most destructive attacks of Fire-Blight have ensued upon thunder-storms at night, or continued spells of close, misty weather, succeeded by hot sunny mornings. And yet that

proves nothing: for although there have been few thunderstorms this season, and the Blight has scarcely troubled the writer, the complaints of its ravages by his friends in this vicinity are frequent and emphatic. Electric influence has been suspected, at times; but it is a mere suspicion, with nothing more to warrant it than the singular concurrence of thunderstorms, with fresh attacks of Blight, very possibly fortuitous after all.

One fact within the individual observation of the writer, has impressed him very forcibly. That is,—the marked susceptibility of certain varieties to the blight; and the especial significance that, in every case, those varieties have been of excessive fecundity. Take, for example, the Belle Lucrative,—from one tree of which, in one season, he thinned out, by actual count, two thousand specimens, allowing twice too many to remain, at that. Consider the fatality to Clapp's Favorite;—another variety whose prolificacy is equally remarkable. Rank growers and heavy bearers: like other spendthrifts, they burn the candle at both ends and meet a similar fate. Some analogy might be traced to consumption in the human subject; were it not for the lightning-like rapidity wherewith the Pear-Blight makes its onset.

And again: the writer knows of no variety that he would prize more highly than Glou Morçeau,—were it secure from this disease. Years since,—after cutting off pretty much all the limbs in the vain effort to save a much prized tree he, in utter despair, double-worked Josephine de Malines. There has been no blight since. The original stock was Belle Lucrative. Subsequently,—not willing to give up the Glou Morçeau, he grafted it upon the Lawrence. That tree has not blighted yet; although it is only fair to state that it has not borne much to date. In the case of the Belle Lucrative,—it would almost seem to be a matter of heredity. Earle's Bergamot, upon whose local origin and special excellence so much local hope and pride have been based, blights sadly and threatens to pass out of existence. The parents of this variety were the Autumn Bergamot and—once more, the Belle Lucrative! Doubtless care is not enough exercised in the choice of the stock for grafting. Like putting new

wine into old bottles, the stint is too great for a growth that has passed maturity. Instead of the most thrifty, vigorous stock in their orchard, people who wish to possess and perpetuate a new and choice fruit, are too apt to graft into a tree that has become prematurely worn out by excessive fruition. Another point upon which stress may be laid: the suitability of stock and graft. The writer does not believe that an early winter variety can be grown with permanent success upon a tree whose natural habit is summer-bearing. In other words,—his contention is that the Glou Morçeau or Anjou should be worked upon the Vicar, a close, hard-grained wood, and not upon the Belle Lucrative or Boussoc. If "*similia similibus curantur*,"—why should not the character of the parentage control the genesis of a variety or species?

In the judgment of the writer, founded upon long years of observation, too little care is used in selecting the proper stock to graft. We see and taste a new variety, novel to us at any rate, and forthwith we must insert a scion in the first tree that comes handy. The Bartlett bears about as soon as its roots get fairly settled in place. The Bosc or Urbaniste yield their superb fruit to the patient waiters of twenty years. The Bartlett grows like a weed, and produces like a rabbit. The Bosc uprears itself deliberately; supplying, when it does bear, a sure crop of quite uniform excellence and quantity. What affinity have such varieties for each other? Their wood is of different grain; the sap does not start in them simultaneously; their periods of ripening are months apart. These varieties have been named hap-hazard. But a compulsory union between them would be no more incongruous or unnatural than those that are continually attempted. The members of a Society that exists to "promote the Science and improve the Practice of Horticulture" should never "plough with an ox and ass together." Who can estimate the number of varieties that have been enfeebled in constitution or have been wholly lost to cultivation, by such irrational practices? A suitable relationship between scion and stock ought to be as rigidly enforced in Pomology, as an adequate foundation for the superstructure, in building.

The Massachusetts Horticultural Society reposes in a fame that is world-wide:—a fair repute merited by a long career wherein all honorable Floriculture and Pomology were wisely encouraged. It may savor of presumption to assert a difference of opinion from a Society so venerable, guided as it has been for Fifty years by the Apostle and Patriarch of American Horticulture; yet, bearing in mind that

"*Fortes ante Agamemnona vixerunt,*"

it should not be inexcusable to inquire if it is legitimate Pomology to invite a competition in specimens of choice Anjou and Winter Nelis, on the 14th–17th of September! Does not that Society impair its credit for sound judgment, when it persists, not merely in countenancing, but in positively inviting the display of fruit but half grown or lacking months of attaining maturity. Your Secretary is earnest in pointing out this grave error; long since happily discarded in our own practice; because of the serious influence emanating from such an authority. So long as the Massachusetts Society persists in promoting the exhibition of Winter Nelis and Anjou in September; so long will every Cattle Show that feebly dabbles in imperfect pomology, justify its own blundering efforts by such an illustrious example. It cannot be necessary to recite the expressed opinion of the late John Milton Earle,—a name ever to be respected in these Halls,—that fruit matures more within the last month of its duration upon the tree than throughout its whole previous existence. And just in that word maturity may be found the latent essence of the matter. Growth is one thing: but the texture of the flesh is only confirmed by lapse of time, within which period supervene juiciness and flavor,—this latter so inexplicable yet indispensable. As age lends bouquet to the juice of the Grape, for no Human Asceticism can countervail Natural Law! so do the lingering rays of an Autumnal sun confer beauty and aroma upon Pears as they ripen to perfection. The festival of Thanksgiving could illy spare two entire months of development; and man should neither expect nor exact it, even in an age of unreason wherein the millennium is the creation of a statute.

A prize gained after close competition, upon the award of a competent judge, is worth something for that reason only, if its intrinsic value is slight. But what shall be the worth of awards that ignore pomological science, asserting distinctions without a difference and founding varieties upon a mis-nomer? Yet, at a recent Cattle-Show in this City, separate premiums were awarded to *Bonne d'Ezée* and Brockworth Park, Pears; although they have been identified, for years, as one and the same variety. The latter title being a fraud,—the synonym of a pretended novelty quite "English, you know!"

"What is *hardy?*" is a question not now for the first time considered in these Reports. "Gardening Illustrated," a very instructive English magazine, puts the conundrum in this wise,—

"Wintering Lobelia Cardinalis:—I shall be much obliged by your informing me how I ought to treat some plants of Lobelia Cardinalis during the winter. I have only a small covered frame, which however is not tolerably frost proof. Will the Lobelia plants stand being exposed to winter weather, or must they be taken up and sheltered?"

To which the Editor replies;—

"The scarlet [crimson (?)] Lobelia is one of the curious plants that puzzle even the wisest. In some gardens that we know, and no doubt in hundreds that we do not know, it is perfectly happy in the open air in winter. Places where it lives out of doors in winter are generally seashore districts, where the plant is put in sandy loam. In the London district, it is generally necessary to take the plants up after flowering and keep them in a cold frame or in a greenhouse."

All which must amuse or be news to the florists of Massachusetts, who can count upon the brilliancy of the Cardinal-Flower with as much certainty as August recurs. By the brook-side and along the margin of shallow ponds; in every place, especially, where cattle have been wont to wade and tread in the seeds borne down upon the stream. The degrees of Fahrenheit are not reckoned nor is proximity to the seashore taken into the account. But the scythe too often exterminates. For the question heretofore asked by the writer,—Is Lobelia Cardinalis more than biennial? remains undecided. Charles M. Hovey insists that it is not perennial. And if not,—how easy to explain its disappearance in those meadows and along those rivulets where

it was the practice to mow all that stood. In such cases of course, no seed could mature; and the root, not being perennial, shortly died out. Years ago, the famous florists around Rochester, N. Y., considered Cydonia Japonica but half-hardy. They have grown wiser now, such men living to learn and profiting by their advantages of observation. But, suppose some freshman, of our own number, should find the trunk of a Cherry-tree riven wide open by frost, after a night of intense severity! Shall it therefore be assumed that the Cherry is not hardy in this climate, although yielding its grateful fruit since the first Mayflower blundered upon our coast? Instances of Amaryllis *longifolium*, and Lilium Auratum, wintering out-doors, when accidentally overlooked and deeply covered, have been brought to your notice heretofore. It might be hazardous to assume the hardiness of such bulbs except under similar favorable conditions whose existence pre-supposes too much leisure and trouble. But why should the Hyacinth and Tulip be almost unique in their endurance? May not careful tests establish the fact that we have enfeebled plants, by molly-coddling, whose constitution only required that they should be let alone!

And how much remains to be disclosed by the search for new varieties and their thorough trial. For years the Catalpa *bignonoides* put forth its rank growth, to be completely winter-killed, under this parallel of 42°. It was reserved for that eminent horticulturist, the late John A. Warder, to discover and proclaim the tested merits of Catalpa *speciosa*. A most rapid growing tree of widely-branching development, whose immense leaves and handsome panicles of floriage have come to supply one of the finest and most unique ornaments to private or public grounds. Does any one challenge its hardiness? For these ten years past specimens by the hundred have been procured (through the mail) of Robert Douglas & Sons, and planted in the bleakest and coldest portions of Elm Park, in this City. The records will show how keenly the winds have swept—how low the mercury has fallen,—within that period. The extremities of a few twigs may have been nipped occasionally,—but that has been the worst. What is more to the purpose; their tough wood (*bois d' arc*) withstood the fearful Ice-storms of the last January and February un-

harmed; while huge limbs and even the very trunks of Elm and Maple were snapped like pipe-stems.

May not new varieties of shrub, and tree, reward a careful search, which shall prove as dominant and useful in their several genera and species as the Catalpa Speciosa has approved itself in practical demonstration.

The complaint of depressed or failing markets is not restricted to the manufacturers. It was easy enough for them, the tide coming in, to float upon the swelling waves. Old work-shops could be enlarged, new buildings erected, raw material heaped together; for were not the profits great and promissory notes of facile discount? Each thought to gather in his harvest, forgetting that the wild competition fostered by unjust laws and the reckless customs of banking must sooner or later prove a fatal handicap. More "protection" is of no avail; since to use an expressive if somewhat vulgar phrase, he has already "bitten off more than he can chew." He looks around for new markets: but his own selfishness has closed them to him. And not alone to him, but to the farmer as well. The Frank and Teuton are neither fools nor blind. The exclusion that is good for the Yankee, they not unnaturally argue must be beneficial for them. So that these nations "encourage home industry" by levying excessive duties upon articles of foreign production, or accomplish their object more effectually by wholesale prohibition. When the American Hog is banished from Europe, we are estopped by our own piggishness from complaint. The boasted home market will not suffice. The factory that does not run at a profit—nor can long run at a loss, pays poor or no wages to be expended in the consumption of flour, pork, or fruit. Just at present, there is something in point for the Pomologists of this great apple-growing County of Worcester to consider. The yield of our Orchards is large, if not as excessive as in some years past. Yet what is the net remuneration for the fruit, per barrel, carefully gathered and assorted? But the Apple-crop in England for the past year, has been a bad failure. The latest advices from Liverpool quote good, fair American red apples at 12 to 15 shillings per barrel. If the price starts thus,—what

may it not be in the later Autumn? Now there could scarcely be a limit to the possibilities of this traffic if left to be controlled by demand and supply. The capacity of our Orchards can be enlarged to any extent, occupying profitably land now suffered to grow up to white birch or scrub oak. Shipping might once more crowd our idle harbors; even sails renewing their use and again whitening the seas. But, then! Canada and Nova Scotia grow as good fruit as Maine or Massachusetts, at their best. Must not their home industry be encouraged? will be the cry of the Canuck or Blue-nose demagogue. Must not our local interests be "protected"? the interests of those precious farmers, anxious concern for whose welfare deprives the disinterested politician of his needed sleep. And so will ensue discrimination against us in those markets wherein, as our own laws preclude us from buying one thing, we will not be allowed to sell another.

The Pomologist, in this latter generation, is literally between the devil and the deep sea. The juice of *Pyrus Malus*, in the eye of the ascetic, becomes *malum in se;* and by enactment of the bigot, with whom virtue is the restriction of his fellow, it is speedily transformed into *malum prohibitum*. The saints can abstain from anything, if they so elect; but no! is not philanthropy the enjoyment that we derive from the misfortunes of our friends. The fox might not miss his own brush so much were the entire Reynard family tail-less. The juice of the grape is out-lawed;—even the communion-table of the Son of God having become too orthodox to admit an element for whose manufacture He chose to work his earliest miracle. Christianity, with Christ eliminated, is the entertainment to which the farmer and orchardist is invited by theology run mad. But, if you let alone the juice, whether of apple or grape,—what can you do? What will you be allowed to do with the "original package"? Just now, it so happened that, throughout broad England, there is a dearth. An unpropitious season has lessened the English crop of fruit by half. But the trouble is far otherwise at home, in our own Worcester County. In this great apple-producing region, there is rather what the French term *embarras des richesses*,—too much of a good thing. Wherever you go, there is visible on

every hand, the faithful old apple-tree, nearly dead from over-cropping; breaking down beneath its latter burden; betraying the neglect that has reduced it to its apparent condition of waste; and silently reproaching the owners—whether of farmstead or modern grange, who are too lazy to restore and maintain them in their original state of vigorous fecundity. And where recuperation is hopeless, to replace them with a younger and thrifty growth.

Terræ-culture and Commerce,—children of labor and kinsmen of adventure,—are united by a closer than Siamese ligament. Of what use is it for the Farmer to sow or reap, if he can be forbidden the profitable disposal of the surplus that he will not need for his own use! The load upon his market wagon,—the manifold freight in the hold of the ship,—what are either or all but the manifestation upon a greater or less scale, of that irrepressible tendency in man to wander over the earth, travelling and trafficking, enlarging his own faculties by observation; diffusing knowledge among the people that he meets; and, at the same time, turning an honest penny as the net result of his venture. There are, who gauge the prosperity of a country by the duress that it suffers to be imposed upon its Commerce. Who claims that thrift is in proportion to the rigidity and weight of the shackles wherewith industry can be hampered! To such, the old-fashioned virtue of saving is of less account, since the potent arm of the Commonwealth can be invoked to foster a single artificial class of business; which, in return, out of simple volition and pure benevolence, will scatter around a paternal influence and alms. Manufactures, stimulated and made drunk by bounty, will allow a few drops to overflow from their cup that the unprotected community may be intoxicated. The Granger harvests his swedes by the sweat of his brow and would fain disperse them for the sustenance of the nations. The manufacturer corrals *his* Swedes and imports them by the ship-load for cheaper production of his wares and!—the better protection of Home Industry! The Farmer and Orchardist may look for their compensation to the home-market, assumed to be the creation of a tax! as though taxes were ever aught but consumption and loss. The expenditure of sums raised by taxation may, of course, be directed with greater or less wisdom. But who will pretend that Taxation, for its own

sake, can ever be a benefit,—nay even to those who have contrived to pervert its imposts for their exclusive, selfish advantage! But when there is no home market,—because labor is on a strike, or greed has turned the key; when everything that the soil produces is left to rot, since the energy and resources of a community were concentrated in one line to the inevitable issue of overproduction and consequent glut and impoverishment; wherein are the Granger or Orchardist to search if perchance they may find remuneration for years of patient endurance and self-denial? Issachar was a most assured Ass and the name of his lineal descendants, in this County of Worcester, is legion.

The strain that comes upon every article of household use or personal wear in connection with the cultivation of the soil, cannot be overestimated. It is the truest economy for the farmer or orchardist to get the best,—whether of apparel or tools. He, of all men, should have no toleration for shoddy. If the ladder broke, of old, he could trust to homespun to bear him up as it caught upon the jagged wood. But now, upon all foreign goods of superior durability, that he might well wish for their excellence and could better afford for their cheapness, there are levied duties which literally restrict their consumption to the millionaire or spendthrift. He beholds a fellow-townsman, who prides himself upon his capacity for affairs, and boasts of his Yankee smartness, upon the eve of each annual election crying baby and admitting that he cannot compete with the subjects of "effete monarchies" except he shall be constantly pampered with bounty and special privilege. For himself,—he rises early, toils hard, wrests a frugal subsistence from a reluctant soil, scrimps his family indulgences to save for the annual Tax, and surrenders about a third of his average earnings to uphold a fabric of vicious legislation as unsubstantial as that other creation,—with similar brazen cheek and feet of miry clay. He might sell in the dearest market and buy in the cheapest. He might ship the culled fruits of his Orchard (and for his interest and good repute he should ship none other), supplying ample cargoes for a restored commercial navy, and bringing back in return freight whatever he needed, if he found it suited to his purposes. What he might offer abroad, in profusion, could be seen by any one, in sample,

who beheld the superb display by the Worcester Grange, at the recent Show of the Bay State Agricultural Society. What he should insist upon is the abolition of all needless restrictions,—the loosing of all antiquated shackles, that have so long cramped the movements of international as well as inter-State commerce. Thereafter,—with entire freedom of intercourse, he may devote himself to the still further perfection of his methods of cultivation,—to the development of yet choicer varieties,—to the selection and careful packing of sound specimens of approved kinds; when, with a clear conscience and assured faith, he can take his rest, awaiting profitable returns. And, to while away his hours of enforced leisure, in the long winter evenings, he may chant the lay that the "Infant Industries" have been humming through the droning air, for the half-century past, in their plenitude of lazy surfeit:

> "Though I should live Ten Thousand years
> Sucking from sun to sun;
> I could no more let go that teat
> Than if I'd just begun."

Years,—aye, more than a half-century of them, have flown since Daniel Webster predicted the present condition of affairs; and it is now high time that Massachusetts once more became a commercial Commonwealth. For this,—she need not abate one jot or tittle of her manufacture. If her towns shall not grow quite so fast, their gradual increase may be the healthier. The concentration of people is not, of itself, a beatitude. With countless conveniences for comfort, and ingenious contrivances for luxury that were better dispensed with; come also facilities for vice, and tendencies to pauperism, that are the foulest blot upon modern civilization. But the wholesome development of town and country, which has been so marked a product of the unchecked intercourse throughout this American Republic, will scarcely be impeded by the expansion, still more widely, of artificial barriers to intercommunication. Shallow theorists, or mouthing demagogues, are wont to depreciate our prosperity as a people by styling it the consummate flower and fruit of chance legislation enacted to meet occasional exigencies. They ignore, or overlook in their shortsightedness, the freedom

of a Continent still young and virgin; the vigor of a population exempt from a merciless tribute to that ravening devil—the modern Standing Army,*—nor less—the sanguine enterprise which is permitted to engage, without let or hindrance, in crazy speculation or plodding industry. The sum of our savings—not the volume of our laws—must be the precise measure of our actual individual and public thrift.

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* Paternal government! Protection to home industry! (when industry is graciously vouchsafed a *home!)* the cant of greed and the lust for power; sworn allies in an alliance offensive and defensive throughout the ages; where are not their traces visible in the degeneration of man—the degradation of woman? The wealth acquired through the partiality of legislation must be guarded and secured by the superior lawlessness of force. That force exacts the first-born for its merciless service, unlike the Egyptian plague, sentencing its conscripts to a *living* death. But production must go on:—else, wherefrom the taxes! And in default of the musket-bearer who so available to hew wood and draw water as the child-bearer? Such, hitherto, has been the monotonous round on the treadmill of human existence. Shall the grist of Ambition and Avarice be man,—forever? E. W. L.

"PLEASURE TRAVEL IN GERMANY.

What Went Ye out for to See?

A country 'shaken with the wind' it seemed to me in every sense, actua and metaphorical. Such fields of waving grain, such uninterrupted evidence of the hand of labor, such long stretched-out arms of despotic power, I never expected to see in any land. It grew painful. There was not a square inch left to nature; my eyes actually hungered for a way-side lane that looked as if it was let alone. There is mile after mile of forest, but as one passes, he sees that it consists of trees planted with mathematical precision. Among hills almost as wild naturally as the Adirondacks, every few hundred feet is the small white stone marking the tax collector. Wherever the smallest yield could be gathered out of the roughest land, there were the marks of labor—scooped-out places, and high up mountain ridges, where some mineral had been found; breaches through other ridges to get at building stone; miles of débris, showing the ages of human toil expended. Every navigable stream has its rocks deeply cut into, as far as boats can be used, carrying building stone away; all fertile land is worked like garden plats; not a spot for a homestead; no meadows "unprofitably gay" with wild flowers, but vast stretches of cultivated land, and then a village of houses huddled together, with scarcely a green spot in it, except the graveyard. The most fertile land is devoted to the sugar beet. Picture stretches of twenty miles or more of these in mathematical rows, without a weed, and the train passing every short distance, lines of women, sometimes a hundred in a gang, as straight a line as the row of beets, hoeing, or on their knees weeding by hand, the overseer, a man, walking behind to see that it was thoroughly done; the picture only needed a slave-driver's whip to make it a southern scene "befo' the waw." When so near that one could observe closely, these mothers of Germany were bare-legged, in rags, a coarse handkerchief over the head—coarse-featured, bold-eyed animals. As we approached towns, squads of

Were the property of this Society reduced to cash, and thereafter converted into Federal Bonds, we should enjoy complete immunity from taxation. Our investment is, however, in Real Estate, improved by ourselves for the express objects of our organization; and from the rental of a portion of it must be derived the only income that we can apply to "promote the Science and encourage and improve the Practice of Horticulture." Should we fail to lease our first floor;—unless we find a profitable return from the occasional uses of our main Hall;—we may as well surrender our charter. A Special Statute has enacted that taxation shall be remitted upon so much of our property as is devoted to Horticultural purposes. It is but a refined sort of casuistry, at best, that denies exemption to a part when all is dedicated to one and the same end. But, if the burden is rightly imposed upon us, how happens it that such partial application of the law is restricted to Horticulture! Why should Flora, Pomona, and Ceres be taxed and Theologi-cus go scot free! The exemption of the Agricultural Society is absolute and unqualified. Otherwise,—it might be asked why that corporation should not be mulcted for so much of its revenue as is derived from the exhibition of naked men, plodding for wagers beneath a summer's sun, in a dreary and monotonous round, to the disgust of an afflicted neighborhood! But, in the matter of the Meeting-houses, the Assessors can plead no valid excuse.

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fifty to a hundred clean, linen-clad soldiers, returning to barrack from bathing, and singing in concert, were in painful contrast.

The far-reaching claws of the despotic rulers are seen in the glistening white turnpikes, straight as an arrow from point to point. Useful for the teamster? Oh, yes; but much more to hurry troops and artillery from central points. At every railroad crossing, a man in the prime of life, stands in military position as we pass; all soldiers, ready at tap of drum to fall in. It is not dark till ten; and as late as we can see, are these white women, slaves, toiling in the fields. It ceases to charm, seeing such thorough cultivation, when one counts the cost. What homes must these barefooted, filthy wretches go to, at 9 o'clock or later, to leave at sunrise? I asked what wages were paid. 'Those best off are under contract with the big sugar factories; they have coffee before they go out, and something warm when they return, with 80 pfennigs (20 cents!) a day; those who board themselves get a mark (24 cents) a day.'

This is the ultimate result in a country whose industries are 'protected' to the extremest extent. It results in having the strong, those in office, have comparative sinecures, and the weakest portion of the community made little better than slaves. C. W. L.

Leipzig, June, 1886.

The General Statutes declare explicitly that "portions of such houses appropriated to purposes other than religious worship shall be taxed at the value thereof to the owners of the houses." Now, throughout the year just past, as always heretofore, the local "houses of religious worship" have maintained equal and exact poise between God and mammon. The "house" was exempt: why not use it, or abuse! it, to turn a thrifty penny? Thus we were told, at the time, that the maids of the Epigœa Missionary Ring scored a success, raking in the shekels, on a certain evening, at the Pilgrimage. "Music and literature" were sources of enjoyment and "clockwork" evoked fun. "Handiwork and fancywork" from lads and lasses made an elaborate display in that house set apart for religious worship! While "pleasantly-served refreshments" led by unctuous attraction and remunerative steps to the Throne of Grace.

No oppressive odor of sanctity emanates from the Meeting-house of the Unique & Only: but its immunity from any participation in the common burdens, like "His mercy, endureth forever." To demonstrate once for all, that it is "appropriated to purposes of religious worship," and so not liable to be taxed, its "Ladies' Charitable Society" opened their vernal season of ascetic devotion with a "Ballad Concert;—tickets, 25 cts." "When the heart is young,"—gave tone to pious aspirations, which were further uplifted and sustained by solemn meditation upon

"Thine eyes so blue and tender"!

The millennium had been appointed for the First of May; so, doubtless to chasten their exaltation, "Simon, the Cellarer" broke out a new and holy keg. All which, to infer from the non-action of the Assessors, must be accepted as highly conducive to "religious worship" and, as such entitling to exemption.

A "Hot Turkey Dinner from 12, to 2 o'clock P. M., at 50 cts.," was the method and measure of justification for Saving Grace. Its devoted ladies further nurtured their "souls to save we have" upon "supper and entertainment in the evening, admission 10 cts." Of course the "vestry" where that turkey was roasted and wherefrom it was sold, being converted into an eat-

ing-house, and thereby rigidly restricted to "purposes of religious worship," should in no-wise render unto Cæsar the things that are Cæsar's.

Do the "most straitest" claim that, from those cited, little should be expected and that their modes of worship, if inexplicable, are at least characteristic. How then shall be interpreted that wild license of faith and performance which substituted "Don Munio" for the lullaby that damns infants and predestines the Saints! The Statutes insist that "portions of such houses appropriated for purposes other than religious worship shall be taxed," etc., etc. Now, hearken to the novel liturgy of entire exemption that helps the Parish of the Centre to "gain the whole world, and"——?

Picture to yourselves, for an instant, the meeting between the spirits of that strict old Calvinist, Daniel Waldo—our munificent Founder,—and Abadil—a Moorish Prince! *Allah! Il Allah!* What a duet! And how queer must have echoed the refrain from that choir of Fore-ordination! All this, too, for "Thirty cents; children, half price." How appropriate, after all, that the primitive and less ornate house of worship should be wrested from its dedication and perverted to the more lucrative uses of Saddlery! That ancient facture of silver shrines for Diana could not have conduced more to the divine glory,—granting that it were more remunerative.

Do the Statutes mean anything,—or are they intended to be violated by all but Horticulturists? The Reverend Clergy—those middle-men of Protestantism! shout themselves hoarse over certain laws of their peculiar selection that impose no restraint upon themselves because they exact no self-denial. Should they not set their own Houses (of Worship!) in order? Would it not become them to be a little more diffident in view of this incessant and wanton infraction of the spirit and letter of the law of Taxation by the active members of their congregations? When all shall assume their proper share the common burden will be alleviated for all. Until that time shall come, it behooves us to insist that this Society shall not be singled out to be fleeced, for the especial benefit of those who are more selfish or less honest. Your Secretary was ever firmly of opinion

that our property is entitled to exemption, under the General Law, as that of an educational and scientific institution. But, whether that be so, or not, he is sure that our more than sufficient load should not be augmented by official inattention or neglect of the shifts and evasions whereby others, whose practice belies their professions, contrive to shuffle off their proper proportion of the sums levied for the support of civil government and the protection of society.

The source of our income is fixed and the amount of it can vary but little. But taxation is elastic and expansive, having neither mete nor bound save the conscience or discretion of the legislative body, whether of State or City. Hence it may well happen that the half to which we are liable may shortly exceed the whole sum from whose oppression relief was first sought. Neither soliciting nor expecting partiality in the administration of the laws, this Society will continue to protest against the invidious discrimination that so materially impairs its usefulness.

Thanks to the rare tact of Mr. Richard O'Flynn, which can detect at a glance the stray grain of wheat in a bushel of chaff, the efforts of your Secretary to evolve from chaos the lost traces of your early history, have been crowned with a signal success. But a year since he took occasion to recite the pomological devotion of the late *Vice-President* William Workman, in behalf of this Society. The attention of the children of our departed friend was arrested; and to the forcible impression upon their affection and judgment, thus made, do you owe the appearance upon your walls of yonder speaking likeness. Yet even your Secretary was but dimly mindful of the measure of service rendered, in his unassuming way, by Dr. Workman. That he was always ready and capable upon committees, his frequent Reports, as published in your Transactions, amply attest. The rescue from oblivion if not destruction, by Mr. O'Flynn, of a little pocket memorandum is all (but enough) that has been preserved to tell us in what painful manner rigid economy contrived to erect our present Horticultural Hall and with what tireless fidelity its construction was directed. As an invaluable contribution to the history of the

Society; not less than in just attribution to members of yore who spent themselves in its service that it might not untimely perish; that pencilled record is here transcribed, as it could be deciphered, for your more perfect instruction and its own wholesome duration:—

"*Worcester, Jan.* 18, 1851.

At a meeting of the Building Committee of the Worcester County Horticultural Society, held at the Mechanics Bank, Stephen Salisbury was chosen Chairman and William Workman, Secretary. The Committee being thus organized,—it was voted that Messrs. Merrifield and Tower be a Committee authorized to confer with Mr. Billings and Mr. Piper, to see what arrangement can be made with them in regard to building the parting walls; also to procure a plan of the roof skylights and ventilators and eave-conductors; and report to this Committee.

Voted,—That the same Committee be instructed to report their opinion in regard to what should be the construction of the front elevation.

Voted,—That Mr. Bickford be added to the Committee. An application for one of the stores under the Horticultural Hall, by Cushman & Geer, was received and ordered to be put on file.

Voted,—To dissolve the meeting.

WILLIAM WORKMAN, Sec."

"*Feb.* 21, 1851.

The Building Committee at Mechanics Bank at 9½ o'clock A. M. The sub-Committee charged with making inquiries with reference to the foundation and plans of the Hall reported the result of their doings and submitted two plans for the front of the building,—one drawn by Mr. Boyden and the other by Mr. Joy; also plans of a skylight and ceiling.

Voted,—To adopt the plan of Mr. Joy for the basement and corners, to be built of free-stone; and that the super-structure be built of brick and covered on front with mastic—with Terra-Cotta window caps and ornaments.

Voted,—To adopt the plan of the window over the entrance to the Hall, as drawn by Mr. Boyden, leaving off the balcony and projecting the window in front of the wall.

Voted,—Also, that all the windows correspond with the plan of Mr. Boyden.

Voted,—To make three skylights.

Voted,—That the length of the building be one hundred feet.

The sub-committee were instructed to vary the plans in accordance with the votes and suggestions made at this meeting and procure estimates.

Voted,—To meet again at this place in one week from this day, at 9½ A. M.

Adjourned. WILLIAM WORKMAN, Sec."

"At a meeting of the Building Committee, Feb. 11, 1851, all the members present, it was

Voted,—To put three large windows, with iron shutters, in the rear end of the Horticultural Hall.

Voted,—To build according to the revised plan of Mr. Boyden.
Voted,—That the same Committee procure estimates and proposals.
Voted,—That Mr. Bickford be authorized to settle Mr. Joy's bill."

"*March* 11:

Meeting of Building Committee. All present. Several proposals were received and read, all exceeding considerably $10,000: the sum to which the Committee are limited by the Society. After a long consideration of the subject, it was

Voted,—To re-commit the plans and estimates to the same sub-committee to be revised, to see what reductions and alterations can be made to reduce the cost of the building.
Voted,—To call a meeting of the corporation to be held on Wednesday, the 26th inst.
Voted,—To adjourn to next Saturday morning, at 10 o'clock.

WILLIAM WORKMAN, Sec."

It will be observed that the Building Committee had recourse to the Corporation because the restriction of the original appropriation, $10,000, could not be made to cover the extravagance! of their plans. Their confidence was not misplaced. For the official record narrates that at a

"Special Meeting of the Society,

March 26, 1851.

The President called the meeting to order and presided.
On motion of Mr. George T. Rice, it was

Voted,—That the Building Committee be authorized to expend the sum of Two Thousand Dollars, in addition to the sum of Ten Thousand Dollars, already appropriated by a former vote for the purpose of completing the building and furnishing the Hall, authorized by vote at the meeting held Jany. 1st, 1851.

Attest: JOHN GRAY, Sec'y."

The Building Committee having been thus re-inforced, the rescued memorandum continues :—

"*March* 28, '51.

At a meeting of the Building Committee of the Horticultural Society, the following alterations in the plan for the Horticultural Hall were voted,—viz:

Voted,—That we adhere to the plan originally adopted for the roof, except that the walls be raised sufficiently to make the trusses six feet in height: Also that the Hall be lighted by a single sky-light in the centre of roof, thirty feet in length by thirteen ft. in breadth, instead or three sky-lights.
Voted,—That the wall of cellar be two feet in thickness, and the partition wall eighteen inches: that the whole building, above basement, be finished with two coats of plastering; that the ceiling be arched, and at termi-

nation of arch there be a recess of three inches up—with stucco cornice—pilasters with sunk panels—Doric capitals.

Voted,—To leave off iron doors and shutters; but hinges or hooks for them are to be put in walls.

Voted,—That Mr. Boyden be requested to make a plan showing these alterations and in conformity with the above votes; and this plan be submitted for proposals for erecting the building.

WILLIAM WORKMAN, Sec."

"*April* 1, '51.

At a meeting of Building Committee it was

Voted,—That Messrs. W. T. Merrifield, H. N. Tower, and Wm. M. Bickford, be a Sub-Committee and agents to superintend the work.

Voted,—That there be one step to threshold at front of building.

(by S. SALISBURY.) WM. WORKMAN, Sec."

"At a meeting of the Horticultural Society's Building Committee at S. M. L. Ins. Office, June 2, '51, there was present Messrs. Salisbury, Paine, Lincoln, Merrifield, Bickford and Workman; and it was

Voted,—That Messrs. Paine & Bickford be a Committee with authority to arrange for a temporary loan, not exceeding Ten Thousand Dollars, on the names of the committee.

Voted,—That the sub-committee of superintendence be authorized and requested to effect an insurance on the building while in progress of erection.

WILLIAM WORKMAN, Sec."

"At a meeting of the Building Committee at the usual place, July 14, '51, it was

Voted,—That the sub-committee, together with the President and Treasurer, be authorized to lease the Hall to the Third Baptist Society for a sum not less than Five Hundred Dollars a year, to be paid in semi-annual instalments, for a term of not less than five nor exceeding ten years: reserving for the Horticultural Society the right, by giving a week's notice, to the use of the Hall, whenever they shall need it for the use of said Society (Sundays excepted) : and the said Baptist Society may have full use of the Hall at all times, except as above reserved, for religious purposes and for concerts only, they to furnish seats and furniture for their use.

Voted,—That the sub-committee, the President and Treasurer (be authorized?) to lease the stores for a term not exceeding Five Years; also, to lease the 2 rooms in front, in the 2d story, reserving the right of the Society to use the latter whenever their convenience may require.

Present at the meeting, Messrs. Salisbury, Paine, Bickford, Lincoln and Workman.

WILLIAM WORKMAN, Sec."

"*Dec.* 1, 1851.

At a meeting of the Committee, Messrs. Salisbury, Paine, Merrifield, Tower, Bickford & Workman being present, it was

Voted,—That an Insurance of Five Thousand Dollars be effected on the building of the Horticultural Hall.

Voted.—That the sub-committee be authorized to carry this vote into effect, and that they be also authorized to insure the furniture that may be put into the Hall.

Voted.—That the Hall be heated by ventilating furnaces placed within, and that the air for heating be introduced around the heaters through the walls from without: and the sub-committee were authorized to carry the above into effect.

Voted,—Also, that the sub-committee be authorized to furnish a sufficient number of settees for the use of the Hall.

The meeting was dissolved without a formal vote.

WILLIAM WORKMAN, Sec."

"1852. *Jan.* 7.

Meeting of the Committee at Horticultural Hall.

Mr Raymond appeared before the Committee and presented his bill for extras on building. After examining the bill,

Voted,—To authorize the sub-Committee to settle with Mr. Raymond and allow the bill except the charge for the panel work in sky-light.

Voted,—To adjourn.

WILLIAM WORKMAN, Sec."

" *Jan.* 12. 1852.

At a meeting of the Committee at Mutual Life Insurance Office it was

Voted.—To authorize D. W. Lincoln and Horatio N. Tower to superintend the letting & furnishing the Horticultural Hall until further order.

Voted,—To adjourn.

WILLIAM WORKMAN, Sec."

With this last entry, that faintly pencilled memorandum comes to an abrupt close; neither in itself, nor elsewhere, being found any record of the discharge of a Committee whose trust had been so scrupulously fulfilled. Without these brief minutes, we who now manage the functions and transmit the possessions of the Worcester County Horticultural Society would be left in entire ignorance of the painstaking required to devise and provide ways and means for the erection of this substantial edifice. The early legacy was indispensable; the surrender of meagre premiums counted for something. But it is not an extreme assumption that, were it not for the self-denial of a few of our original members who hesitated not to pledge their personal security in behalf of what they approved and advised, the Hall that has been for so long the home of this Society and wherein it has done such

beneficent service, would not now be in existence. Let us therefore cherish, in every way, the names and memory of those devoted founders!

The additions to our collection of Portraits, heretofore a subject of appreciative and flattering comment in the community, are most noteworthy. The children of *Dr.* William Workman, shortly after his decease, made welcome proffer of that most excellent likeness of our lamented friend and co-worker, which has greeted you throughout the late Horticultural term. To the kind interest of his widow have we been indebted for that capital tracery of the lineaments of *Gov.* Bullock,—almost as speaking as we—the veterans in your ranks—can recall them, in memory, from the public rostrum. These,—precious if only considered as works of art; invaluable as memorials of those who, busied in the engrossing cares of medical or political life, yet found leisure for the amenities of Horticulture; have been fitly supplemented by your Committee with one of John Clap Ripley, whose career was that of a private, unobtrusive citizen, but whose connection with this Society was marked by a singularly earnest and efficient devotion. A place in such a valhalla may well become an object of worthy ambition. Its merited attainment would nobly crown any extent or degree of labor or time expended in this behalf. We would not upholster our walls with canvas, either in board-measure, or reckless indifference to proprieties of character or location. Our Hall is a Horticultural Hall; dedicated to certain specific, well-defined uses. Our aims and arts are peaceful,—fraught solely with purposes of beneficence. We aim so to prepare the way that there shall be a vine and fig-tree, suited to the climate and region, whenever man shall be ready to take his seat. And those who contribute most in their own unselfish mode, to develop such grateful shelter for all who are worn and weary beneath the burden and heat of the day, are, of right, arrayed among our immortals. Their memory should abide with us, forever. We would have their features ever before us, for an incentive and inspiration. Let, then, their portraits adorn our walls, wherefrom the speaking likeness shall continually address us in counsel or monition! For thus shall we best realize to

ourselves the influences that prevailed of old, and which animated the once feeble and scattered tribes of Rome to impress their history upon an ineffaceable page:—

"*Sæpe audivi Q. Maximum, P. Scipionem, preterea civitatis nostrae preclaros viros, solitos ita dicere, cum majorum imagines intuerentur, vehementissime sibi animum ad virtutem accendi.*" *—Sallust, Bell. Jngurth. c. iv.

All which is respectfully submitted,

by

EDWARD WINSLOW LINCOLN,

Secretary.

HORTICULTURAL HALL,

Worcester, Worcester County,

Massachusetts, 3: November, A. D. 1886.

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* I have often heard that Quintus Maximus, Publius Scipio and other illustrious citizens, were accustomed to declare that when they were contemplating the features of their ancestors, they felt their minds strongly incited to the performance of noble deeds.

REPORT OF THE LIBRARIAN.

To the Members of the

Worcester County Horticultural Society:

Your Librarian submits the following report. At the last annual meeting of the Society it was voted that the matter of providing a Catalogue of the Library be referred to the Library Committee with power to act. Acting by the authority thus granted them, the committee were unanimous in the opinion that a Catalogue by Title would meet the wants of the Society for some time to come, and your Librarian has therefore prepared such a Catalogue to be printed in connection with the transactions of the Society thus providing for a general distribution of the same.

The additions to the Library during the year just closed by purchase or gift are as follows:—

Memorial of Stephen Salisbury; S. Salisbury.

Compendium of the Census of the United States; 1880; Parts 1 and 2.

Address on Perils of Wage-Workers in continued Silver Coinage; by J. H. Walker.

Bulletin No. 11, from the Agricultural College of Michigan, being a treatise on Lawn making.

Transactions of the Massachusetts Horticultural Society; Part 1; 1885.

Report of the Chief Signal Officer; 1884.

Report of the Dept. of Agriculture; 1885.

The Chrysanthemum; Society.

Memoirs of the Sons and Daughters of New Hampshire; D. Seagrave.

Proceedings of the Thirteenth Annual Session of the Massachusetts State Grange, Patrons of Husbandry, held at Grafton, Mass., Dec. 15 and 16, 1885; James Draper.

Flowers, Fruits and Leaves; by Sir John Lubbock, London; 1886; Society.

Physical Training in American Colleges and Universities; Bureau of Education.

A descriptive Catalogue of Manufactures from Native Woods; Dept. of Agriculture.

Insects Affecting the Orange; Dept. of Agriculture.

How the Farm Pays; by William Crozier and Peter Henderson.

Dept. of Agriculture Special Reports; Vol. 11.

The American Horticulturist, Monthly; Society.

The American Florist, Semi-Monthly; Society.

Gardening Illustrated; 1886; weekly publication; Society.

Vick's Monthly Magazine; 1886; Society.

The Garden; 1886; English weekly publication; Society.

The Gardener's Chronicle; 1886; English weekly publication; Society.

The Agricultural Gazette; 1886; English weekly publication; Society.

The American Agriculturist; 1886; Society.

The Gardener's Monthly; 1886; Society.

The Country Gentleman; 1886; Society.

The Massachusetts Ploughman; 1886; Society.

The Worcester Directory; 1886; Society.

All of which is respectfully submitted.

CHARLES E. BROOKS,

Librarian.

REPORT OF THE TREASURER.

CHARLES E. BROOKS, *Treasurer*,

In account with the

WORCESTER COUNTY HORTICULTURAL SOCIETY.

1886. DR.

	To Cash on hand Nov. 1, 1885,	$2,267 71	
Nov. 1.	" for rent of Stores 1 year,	3,100 00	
	" " Hall,	2,616 55	
	" from new Members,	63 00	
			$8,047 26

CR.

By Cash paid Premiums, 1885,	$1,600 05	
" " B. C. Jacques,	611 60	
" " James Draper as Judge,	54 00	
" " Chas. Greenwood as Judge,	54 00	
" " H. F. A. Lange as Judge,	70 00	
" " Chas. O. Richardson,	114 70	
" " E. W. Lincoln, salary,	400 00	
" " Chas. E. Brooks, "	1,000 00	
" " Extra Labor, and sundry small bills,	289 38	
" " Wor. Gas Light Co.,	226 04	
" " City of Worcester, Taxes,	523 80	
" " " " " Water,	24 33	
" " Interest,	150 00	
" " Printing, Adv'g and Binding,	329 92	
" " F. W. Wellington, Coal,	49 00	
" " Portrait and Books for Library,	219 69	

By Cash paid J. S. Perkins,	22 86		
" " O. S. Kendall,	29 65		
" " Arba Pierce,	19 40		
" " Protective Union,	7 11		
" " New England Telephone,	5 81		
" " Heywood Bros,	6 50		
" " F. S. Shaw,	30 33		
		$5,839	17
Balance on hand Nov. 1, 1886,		2,208	09
		$8,047	26

CHARLES E. BROOKS,

Treasurer.

HALL OF FLORA,

November 1, 1886.

WORCESTER, MASS., NOV. 1, 1886.

We, the undersigned, Auditors of the Worcester County Horticultural Society, hereby certify that we have compared the foregoing accounts of the Treasurer of said Society for the years 1885 and 1886, with the vouchers presented by him, and find the same correctly entered and footed.

EMORY BANISTER.
HENRY L. PARKER.

CATALOGUE

OF THE

LIBRARY

OF THE

WORCESTER COUNTY HORTICULTURAL SOCIETY,

WORCESTER, MASS.

WORCESTER:
PRESS OF CHARLES HAMILTON,
No. 311 Main Street.
1886.

CATALOGUE.

EXPLANATION.—D. indicates duplicate.

Annals of Horticulture. 5 vols. 8vo. D. London, 1846-50.
Abert's Examination of New Mexico. 8vo.
Andrews' Report of Colonial and Lake Trade. 2 vols. 8vo. 1852.
Allen's Treatise on the Grape. 2 copies. 12mo.
Ayres and Moore's Florist's Guide. 8vo.
Allen's Rural Architecture. 12mo. D.
American Agriculturist. 4to. 1859–1886.
Agriculture of Massachusetts. C. L. Flint. 8vo. 1853–1880.
Agriculture of Massachusetts. John E. Russell. 8vo. 1881–1886.
Agriculture, Department of. Reports. 8vo. 1862–1885.
Acres, Ten Enough. 12mo. 1865.
Alpine Flowers. W. Robinson. 8vo. 72 cuts. London.
Alpine Flowers. Wm. Sutherland. 8vo. 1871.
Allen's American Farm Book. 12mo.
Annual of Scientific Discovery. D. A. Wells. 12mo. 1857.
American Angler's Guide. (Illustrated). 8vo.
A Tour Around My Garden. 12mo. 1856.
Albany Cultivator. 4 vols. 4to.
American Fruit Garden Companion. E. Sayers. 16mo.
American Flower Garden Companion. E. Sayers. 16mo.
Agricultural Annual. 12mo. 1867–1871.
American Fruit Culturist. J. J. Thomas. Revised edition. 12mo. 1866.
American Grape Culture and Wine Making. P. B. Mead. 8vo.
American Pomology; Apples. John A. Warder. 12mo.
American Horticultural Annual. 12mo. 1867–1871.
American Naturalist. Vol. 1. (1867–69, vol. 2.) (1869-70, vol. 3.) Vols. 4, 5, 6, 7. Plates and wood-cuts. 8vo.
A New Home.
American Farmer's Encyclopedia. Johnson. 8vo. 1844.
Animals and Plants which Domesticate. Darwin. 2 vols. 12mo.
American Journal of Horticulture. Vols. 3 and 4, 1868. 8vo.

American Agriculturist. Vols. 27–34. 4to.
American Horticultural Society. 2 vols. 1870.
American Fruit Book. S. H. Cole. Many cuts. 18mo. 1849.
Atlas of Flowers. Vilmorin. 12mo. Paris, 1870.
Apple Culturist. S. E. Todd. 12mo. 168 cuts. New York, 1871.
Alpine Plants. David Wooster. 54 col. plates. Large 8vo. London.
Annual Report of Board of State Charities. 8vo.
A Summer In My Garden. Warner C. Dudley. 16mo. 1871.
Agricultural Gazette, The. 2 vols. 4to. London, 1874–75.
Alpine Plants. Second series; illustrated. Large 8vo. London.
Annual Report of Board of State Charities. 12th. 8vo.
Amateur's Greenhouse and Conservatory. Col'd plates and engravings. D. 1873.
Annual Report of the State Pomological Society of Michigan. (Sixth.) 8vo.
Annual Report of the United States Entomological Commission for 1877, relating to the Rocky Mountain Locust, with maps and illustrations. First Report.
A Practical Treatise on the Construction, Heating and Ventilation of Hot-houses. 8vo. 1851.
American Farmer's Instructor. F. S. Wiggins. 8vo.
An Introduction to Systematic and Physiological Botany. Thomas Nuttall. 12mo. 1827.
American Entomologist. New series. Two copies. Large 8vo. 1880.
A Glimpse at Michigan Horticulture. Chas. W. Garfield.
Address of Hon. Marshall P. Wilder and other proceedings at the meeting of the New England Genealogical Society. Jan. 4. 1882.
Annual Report of Commission of Public Grounds. E. W. Lincoln, Chairman. Pamphlet. 1881–82, 1883–84.
Address of Hon. George B. Loring and other proceedings of the Cotton Convention, held at Atlanta, Ga., Nov. 21, 1881.
American Journal of Forestry. Franklin B. Hough.
Answers to Inquiries about the United States Bureau of Education. Pamphlet.
Address of Hon. M. P. Wilder at the Nineteenth Session of the American Pomological Society, held at Philadelphia, Pa., 1883.
Address on Perils of Wage Workers in continued Silver Coinage. J. H. Walker.
A Treatise on Lawn Making. Pamphlet. 1886.
An Investigation of the Composition of American Wheat and Corn. Pamphlet.

A Report of Exhibits, Illustrating Agricultural Statistics at the World's Industrial and Cotton Exposition at New Orleans.
American Home Garden. Watson. 12mo.
American Cottage Builder. John Bullock. 12mo.
Annual Reports of Commissioners of Central Park, N. Y., 1858 to April, 1871, except 1859. 8vo.
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Buist's American Flower Garden Directory. D. 1 vol. 8vo. 1 vol. 12mo.
Buist's Family Kitchen Garden. D. 12mo.
Buel's Albany Cultivator. 1834–59 except 1847–8. 4to.
Barry's Fruit Garden. D. 12mo.
Buckminster's Cultivator's Almanac. 12mo. 1840–1.
Beecher's Fruit, Flowers and Farming. 12mo.
Botany, American Medical. Jacob Bigelow, *M. D.* 3 vols. 8vo.
Browne's Field Book of Manures. D. Large 12mo.
Buel's Farmer's Companion. 12mo.
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Book of Roses. Francis Parkman. 8vo. 1866.
Bee Keeping. M. Quimby. Revised edition. Large 12mo.
British Ferns and Their Allies. Thomas Moore. 8mo. London, 1866.
Butterflies. Theo. Coleman. 8vo. London.
Book of Fruits. Ives. 12mo.
British and Exotic Ferns and Lycopodiums. 12mo. 1868.
Book of Fruits. Robert Manning. 12mo. 1838.
Beautifying Country Homes. Weidenmaur.
British Fungi. M. C. Cook. 18mo.

British Fungology. *Rev.* M. J. Berkley. 8vo. 1860.
Botany (Cryptogamic). *Rev.* M. J. Berkley. 8vo. 1857.
Birds of New England and Adjacent States. Edw. A. Samuels. 8vo.
Bibliographical Index to North American Botany. Sereno Watson. 8vo. 1878.
Botany, Text-Book of. Prof. Julius Sachs. 8vo. 1875.
Botany, Introduction to. Thomas Nuttall. 12mo. 1827.
Botany, Familiar Lectures on. Almira H. Lincoln. 12mo. Ed. of 1831, ed. of 1857.
Botanical Register. Edwards, by John Lindley. 10 vols. 8vo.
Banquet to Hon. Marshall P. Wilder. Pamphlet.
Bulbs. E. S. Rand, Jr. 12mo. 1866.
Cole's American Fruit Book. 18mo.
Cobbett's American Gardener. 12mo.
Colman's European Agriculture. 4 copies. 2 vols. 8vo.
Constitution of the United States. 12mo.
Corbett's Cottage Economy. 12mo.
Cole's New England Farmer. 12 vols. Quarto. 1849–60.
Cleveland and Backus' Village and Farm Cottages. 8vo.
Cottage Gardener. 4 vols. 8vo. 1859–60.
Cassell's Illustrated Almanac. 1860–1.
Covode's Investigations. 8vo. 1860.
Centennial Celebration of First Parish, Worcester. 8vo. 1863.
California, Transactions of Agricultural Society. 8vo. 1859.
Cultivator. 24 vols. 8vo. 1838–61.
Cole's American Veterinarian. 8vo.
Chorlton's Grape Grower's Guide. 12mo.
Cooley's Book of Useful Knowledge, containing 6000 Practical Receipts.
Comstock's Mineralogy.
Cleveland's Village and Farm Buildings. Large 8vo.
Commerce and Navigation of the United States. 3 vols. 8vo. 1862–4.
Country Gentleman. Quarto. [Still publishing.]
Country Life. R. M. Copeland. 8vo.
Cultivation of the Grape. W. G. Strong. 12mo.
Catalogue of Library of Mass. Horticultural Society. 8vo. 1873.
Chemistry of the Farm and Sea. J. R. Nichols. 12mo. 1867.
Cordon Training of Fruit Trees. T. Collins Bréhaut. 8vo.
Contributions to Natural History of the U. S. Louis Agassiz. 4 vols. Royal 4to. 81 plates.

California: Report of the Surveyor General. 8vo. 1867–9.
Cottage Gardener's Dictionary. 8vo. London. Third edition.
Choice Stove and Greenhouse Plants. B. S. Williams. 2 vols. 8vo.
Clematis, The. Moore and Jackman. 8vo. London.
Circulars of Information of the U. S. Bureau of Education. 8vo. 1873–4. Bound in cloth.
Circulars of Information of the U. S. Bureau of Education. Nos. 1–5. Pamphlets. 1875.
Curtis' Botanical Magazine. 39 vols. Royal 8vo. Third series, to 1883. Colored plates.
Census of Massachusetts. 3 vols. 8vo. 1875.
Culture of Small-Fruits. E. P. Roe. 8vo.
Carrots: How to Grow, Keep and Feed them. Jas. J. H. Gregory. 12mo. Unbound.
Chemical Field Lectures. *Dr.* A. J. Stockhardt. 12mo. 1853.
Cyclopedia of Practical Floriculture. *Mrs.* C. H. Turner. 4to.
City School Systems of the United States.
Catalogue of the Microscopical Exhibit of the U. S. Department of Agriculture at the World's Industrial and Cotton Centennial Exposition, New Orleans, 1884–5. Wm. Saunders.
Catalogue of the Grasses of the United States, including especially the Grass Collections at the New Orleans Exposition by *Dr.* George Vasey, Botanist, Washington, D. C. Wm. Saunders. 1884–5.
Catalogue of the Free Public Library of Worcester. 8vo.
Coxe on Fruit Trees. 8vo. 1817. 200 cuts.
Compendium of the Census of the United States, 1880. Parts I and II. 8vo.
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Downing's Fruits and Fruit Trees of America. Large 8vo. 1881.
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Domestic Animals. D. H. Jacques. 12mo. 1866.
Draining for Profit and Health. Geo. E. Waring. 12mo.
Department of Agriculture, Reports 1860–85. 8vo.
Dixon and Kerr's Ornamental and Domestic Poultry. 12mo.
Dictionnaire de Pomologie. M. André Leroy. 5 vols. Large 8vo. Paris. 1868, 1869, 1873, 1877.
Dictionary, Paxton's Botanical. Large 8vo. London. New and revised edition.
Dictionary, Worcester's Unabridged. 4to.
Dictionary, Farmer's and Gardener's. 8vo.
Department of Agriculture, Reports (Special). 6 vols. 8vo. From No. 1, 1877, to No. 65, 1883.
Elder's Cottage Garden. 12mo.
Eastwood's Cranberry Culture. 3 copies. 12mo. 1866.
Emerson's Report on Trees and Shrubs of Massachusetts. 8vo. D.
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English Forests and Forest Trees. 8vo. 1853.
Edwards' Botanical Register. 10 vols. 8vo.
Elliott's Fruit Grower's Guide. 12mo. D.
Emmons' Report on Quadrupeds of Massachusetts. 8vo. 1840.
Edgewood, My Farm at. Ik Marvel. 12mo.
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Eulogy on James A. Garfield. Geo. F. Hoar. 8vo. 1881.
Encouragement to the Sorghum and Sugar Beet Industry.
Elliott's Lawn and Shade Trees. 12mo. 1867.
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Farmer's (American) New and Universal Hand Book. 8vo.
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Farmer's Barn Book. 12mo.
Farmer's Every Day Book. 12mo.
Fitch's Treatise on Insects. 8vo.
Finance Report. 8vo. 1864.
Florist and Pomologist. 22 vols. 8vo. 1862–83.
Flora of North America. W. P. C. Barton, *M. D.* 3 vols. 12mo.
Fruit, Flower and Kitchen Garden. Neill. 8vo.
Farmer's Implements and Machines. John J. Thomas. 2 vols. New edition. 12mo. 1869.
Farming for Boys. 12mo. 1868.
Fern Garden. Shirley Hibbard. 16mo. 1869.
Ferns, Select. B. S. Williams. Cuts. 12mo. 1868.
Flowers and Festivals. W. A. Barrett. 12mo. 1868.
Fruit Garden. Barry. Revised edition. 12mo. 1872.
Forest Trees. Arthur Bryant. 12mo.

Flore des Serres. Vols. 1 to 23. Large 8vo. Ghent, Belgium. 1845–80.

Floral World, The. Vols. 7, 8. 8vo. 1872.

Floral Cabinet, The Ladies'. Vols. 1, 2, 3. 4to.

Floral Magazine, The. Vols. 1 to 20 inclusive. 1861–80. 4to. London.

Ferns of North America. *Prof.* Daniel C. Eaton. Col'd plates. 2 vols. 4to. 1879–80.

Ferns in their Homes and Ours. John Robinson. 12mo. 1878.

Ferns of Kentucky. John Williamson. 12mo. 1878.

Ferns, New and Rare. E. J. Lowe. Large 8vo. London, 1872.

Ferns, British and Exotic. E. J. Lowe. 8 vols. 8vo. London, 1872.

Field's Pear Culture. 12mo. 1858.

Farming with Green Manures. C. Harlan. 12mo.

Flowers for the Garden or Conservatory. Richard Deane. 8vo. New series. 1878. 47 Col'd plates.

Flower Garden, The. Joseph Breck. 12mo. 1856.

Fruits of America. A. J. Downing. Revised by Charles Downing. 8vo. 1859.

Farmer's Dictionary, The. *Dr.* P. Gardner. 2 copies. 12mo. 1846 and 1855.

Fruit Recorder, The. Purdy. 4to. 1881.

Fertilizers. *Prof.* W. O. Atwater. Department of Agriculture. Pamphlet.

Fruits and Fruit Trees of America. A. J. Downing. Second revison and correction, with the appendices of 1872 to 1881, and containing many new varieties. Charles Downing. Large 8vo.

Forestry: a Magazine for the Country. 1883.

Flora of the Southern States. Chapman. 8vo. 1884.

Forests and Moisture, or Effects of Forests on Humidity of Climate. 12mo. 1877.

Fruit Culture. W. G. Strong. 12mo. 1885.

Five Acres Too Much. R. B. Roosevelt. 12mo. 1885.

Flax and Hemp, Their Culture and Manipulation. 12mo.

Flowers, Fruits and Leaves. *Sir* John Lubbock, M. P., F. R. S. 12mo.

Fruits, Flowers and Leaves. *Sir* John Lubbock. 12mo. 1886.

Gardener's Farmer's Dictionary. 2 copies. 12mo.

Gardener's Chronicle. 4to. Folio. [Still publishing.]

Gardener's Monthly. Thomas Meehan. 28 vols. 8vo. 1859–86.

Gray's Manual of Botany of Northern United States. 8vo. D.

Gray's Genera of Plants of the United States. 8vo. 1848–9.

Greenwood and Mount Auburn. (Illustrated). Quarto. 1847.
Grape Culture (open air). John Phin. 8vo. 1876.
Grape Culture, Wine and Wine Making. A. Haraszthy. 8vo. 1862.
Grape Culturist. A. S. Fuller. 8vo. 1864. D.
Gould's Report on the Invertebratæ of Massachusetts. 8vo. 1841.
Gilpin on Landscape Gardening. 8vo.
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Guenon's Treatise on Milch Cows. 8vo. 1856.
Gray's Botanical Text Book. 8vo. 1865.
Gardening for Ladies. Mrs. Loudon. 12mo. 1846.
Gray's Agricultural and Literary Essays. 12mo.
Gray's Manual of Botany. 2 copies. 8vo. 1856. Illustrated.
Gardener's Text-Book. P. A. Schenck. 12mo. 1860.
Gardening for Profit. Peter Henderson. 12mo.
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Gray's Scientific and Practical Agriculture. 12mo.
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Geological Report on the Lake Superior District. Large 8vo.
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Gardening for Pleasure. Peter Henderson. 12mo. 1875.
Grafting and Budding. Chas. Baltet. Small 12mo.
Grape Vine Culture. J. Fisk Allen. 12mo. 1848.
Grasses of Great Britain. Chas. Johnson. 8vo. Illustrated by John E. Sowerby.
Gardening Illustrated. An English weekly paper. [Still publishing.]
Gately's Universal Educator. 3 vols in one. Royal 8vo. 1883.
Guide to the Study of Insects. A. S. Packard. 8vo. 1869.
Hovey's Magazine. 34 vols. 8vo. 1835–68.
Hovey's Fruits of America. 2 vols.
Horticulturist. 25 vols. 8vo. 1846–70.
Horticultural Pamphlets. 8vo.
Hooker's Exotic Flora. 3 vols. 8vo.
Hooker's Icones Plantarum. 4 vols. 8vo. D.
Hooker's Journal of Botany. 4 vols. 8vo.
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Harris and Agassiz on Insects Injurious to Vegetation. 8vo. 1862.
Hogg on the Growth and Culture of the Carnation. 12mo.
Horticultural, Register. 8vo. 1835–6.
Horticulture, Journal of. 38 vols. Royal 8vo. 1861–80.
Horticulture, Journal of. Royal 8vo. Third series. 1880–1882.

How to Choose a Good Milch Cow. C. L. Flint. 12mo.
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Horticultural Annual. 1867.
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Handy Book of the Flower Garden. David Thompson. 8vo. 1871.
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Hand Book of British Mosses. *Rev.* M. J. Berkeley. 8vo. London. 24 col'd plates.
How Crops Feed. S. W. Johnson. 12mo. 1869.
Hand Book of British Fungi. M. C. Cooke, *M. A.* 2 vols., with full description of all the species and illustrations of the Genera. 18mo. 1863, new ed. 1871.
History of the Massachusetts Horticultural Society. 2 copies. 8vo. 1829–78.
Home Garden, The. Ella R. Church. 12mo.
Horticulture of Boston. Marshall P. Wilder.
Harvard University Bulletin. Vol. 2. Nos. 10, 11. Pamphlet.
High Schools for Girls in Sweden. Bureau of Education. Pamphlet.
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Insects affecting the Orange. Pamphlet.
Illustrated London Almanac. 1856, 1858–62.
Illinois, Transactions of State Agricultural Society. 8vo. 1859–60.
Indiana, Transactions of State Agricultural Society. 8vo. 1853.
Industry of Massachusetts. 8vo.
Indian Corn. Edw. Enfield. 12mo. 1866.
Illustrated Strawberry Culturist. A. S. Fuller. 12mo. 1867.
Iconum Botanicorum Index. G. A. Pritzel. Royal 8vo. 1855.
Index of the Agricultural Reports of the Patent Office for 25 years, from 1837 to 1861, and of the Department of Agriculture for 15 years, from 1862 to 1876. 8vo.

Industrial Art in Schools. Bureau of Education. Pamphlet.
Insects Injurious to Fruits. Wm. Saunders. 2 copies. 8vo. 1883.
Illiteracy in the United States in 1870–1880. Charles Warren, *M.D.* Pamphlet.
Index to "The Garden" from 1871–81. 8vo.
Index to Curtis' Botanical Magazine. Vols. 1–107. Royal 8vo.
Index to North American Botany. Watson. 8vo. 1878.
Jaques' Fruit Trees. 18mo.
Johnson's Dictionary of Gardening. 12mo.
Johnson's Flower Garden. 12mo.
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Kerby and Spence's Entomology. 12mo.
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Langstroth's Hive and Honey-Bee. 12mo.
Leuchar's Treatise on Hot-houses. 12mo. D.
Loudon's Encyclopædia of Plants. 2 vols. 8vo. 1841. D
Loudon's Encyclopædia of Plants. 2 vols. 8vo. 1855.
Loudon's Encyclopædia of Gardening. 2 vols. 8vo. D.
Loudon's Encyclopædia of Agriculture. 8vo. D.
Loudon's Encyclopædia of Agriculture. (Cottage). 8vo.
Loudon's Horticulture: Suburban. 8vo.
Loudon's Arboretum. 8 vols. 8vo. 1844.
London Cemeteries. 8vo.
London Horticultural Society's Catalogue. 8vo.
London Horticultural Society's Reports. 7 vols. 4to.
London Villa Gardener. 8vo. 1850.
Ladies' Flower Garden. *Mrs.* London. 5 vols. 4to.

Lindley's Flora Medica. 8vo.
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Lyell's Elements of Geology. 8vo. 1853.
Lyell's Principals of Geology.
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Land Office Report. 8vo. 1867.
Liebig's Agricultural Chemistry. 8vo.
Loudon's Suburban Gardener.
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Les Fougeres (Ferns). 2 vols. 8vo. 1867–8.
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FOR THE YEAR 1887.

Worcester, Mass.
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WORCESTER COUNTY
HORTICULTURAL SOCIETY.

A. D. 1887.

ANNUAL REPORT OF THE SECRETARY.

To the Members of the
Worcester County Horticultural Society.

Any Report to this Society, which should omit to acknowledge our great indebtedness to a portion of our members, for the persistent devotion and enthusiasm whereby the signal success of our exhibitions has been assured, might better be left unwritten. No one can appreciate, so well as your officers whose duty it has been to remain in constant presence, the continuous attendance and tireless labor that, from week to week, crowned your tables and replenished your stands. There are ladies and gentlemen, whose names will occur to you at once, who seem never to grow weary in well-doing. It is no light matter to spare so much time. But only those who have nurtured the young plant; and watched with ever-increasing interest its development into the perfect flower; can measure the self-sacrifice that surrenders it, a free-will offering, for your enjoyment and instruction. No amount of premiums can recompense such zeal: but the least that this Society should do is to recognize its existence and show that its manifestation is estimated at its full and generous value.

People who base an opinion as to the success of our Exhibitions, from week to week, upon the reports in the contemporary newspapers, are quite liable to be misled. Those brief statements are prepared in haste, by young men whose horticultural education is somewhat deficient, howsoever good their intentions. The

reporters see a pretty sizable hall, a considerable length of table, a greater or less display of flowers, or fruit, as the case may be; and, observing that there is space unoccupied, jump at the conclusion that the exhibition under review must be, comparatively, a failure. It is not obvious, at a glance, that the competition does not represent the whole field of local pomology. That, even in this city, the exhibits are drawn from detached gardens in which a few choice varieties struggle with each other for the restricted room and scant nourishment. Take, for illustration, our latest Exhibition save one! On the 20th of October, our Schedule called for only three [3] kinds of Apples and for four [4] of Pears. But the specimens, of which few were decidedly inferior, covered a table that extended the entire length of the Hall. In the olden time it would have required "the largest and best collection" to make a display one-half as large. When there are twenty [20] competitors, under one number in the Schedule; and this too for weeks in succession, as varieties of superior excellence mature, may we not safely claim to have transcended the limits of theory and to rest upon the sure foundations of actual trial and achievement? The lot that endures inspection, here, well enough to win even our lowest premiums, may fearlessly challenge rivalry from the vaunted first prize takers of more pretentious associations. In the vineyards of Horticulture, as in those of the Saints,— many are called, some are self-bidden,— but few are chosen!

The experiment of holding monthly, instead of weekly, Exhibitions, during the vernal season, as suggested by your Secretary, was tried in March and April last, with gratifying success. If May were included in the system, it is believed that you would thereby promote the best interests of the Society. In that month, the votaries of Flora have little to show; and offerings upon the altar of Pomona, in the very nature of things, must be stale. Professional florists have cleared out the stock from their greenhouses, and cannot, if better disposed than they have shown themselves of late, contribute much of note. Amateurs are busy, planning for out-door work; being glad enough to get once more into the open air, whither the market has long since preceded them. There is but a restricted field, at best, from which to

draw; and a consolidation of four poorly supplied and sparsely attended Exhibitions, into one meriting and compelling admiration, would appear a decided step in advance. The Tulip, which is rapidly regaining its pristine popularity, might be the salient feature of the display for that month; the exact date being appointed with close reference to the probable perfection of that gorgeous flower. Whatever else might chance to be in bloom should go to magnify the occasion: the idea being that Tulips should constitute the especial reliance, without excluding lesser or other attractions. The regular series of Weekly Exhibitions would then commence with the display of Roses and Strawberries, in June. This plan is recommended as one that would seem to promise most for Horticulture. There is no doubt that the Hall of Flora can be filled, week after week, with a throng of careless sightseers. But the manifest inferiority of meagre displays must gradually force itself upon the minds of even such poor critics. And this Society cannot afford, as it should not be willing, to peril a hardly earned reputation by exhibitions of a winter's refuse, or by anticipating, prematurely, the first fruits of Spring.

Your awards have been made, as usual, by a single Judge. While this Society may not be entitled to credit for priority, in adopting such method of dispensing its premiums, its co-eval can at least be challenged. The original purpose, of course, was to ensure the doing of exact justice. The complete, or even partial, failure of that purpose, if such should mischance, might be excused, upon the plea of error in judgment; or denounced, as the result of individual ignorance or ineptitude. That the method itself is correct, might be assumed from the fact that it was never discarded, where once adopted. That it commends itself to popular favor may be inferred, from the fact that even the Worcester Agricultural Society, with its incubus of the current year, adopted it as the best system in vogue. And, after all, what is this much contemned and disputed mode of making awards? Aught else than taking a case from the jury upon points of law! A decision may be expected, from a single judge, within a reasonable time. But from three men, of varying temperament and mental poise, wherefrom is to be the concurrence of opinion? Your Schedule is changed yearly; so often that no

definitive interpretation can be put upon its shifting clauses. What was invited in 1886, is not called for at all in 1887. For instance, A. D. 1886, a display or design of Flowers and Fruit in combination, was solicited. Sad as the confession may be, the Society got what it asked and paid what it agreed. But the Judge, and the Committee on Exhibitions, were of one accord in discontent; the result being an offer for the current year of encouragement for Table Designs in Flowers. Our Schedule for long years past, has been directed in the line of precision. It has been attempted to invite just such; to welcome precisely that; and to award, perhaps insufficiently, but yet somewhat, according to the determination of the Judge. Still, the authority of umpires is disputed; and in Base-Ball circles the malignants are even said to kick! Of course no such vulgarity can attach in Horticulture; at whose exhibitions woman is alike an inspiration and restraint. But there is no use in denying what is plainly visible to the dullest; that a spirit of fault-finding is tolerated which bodes no good to the Society, and may even threaten its future. Why is it not possible to credit the Judge of award with good motives; to assume that what he does is for the best; and to suppose that the members generally knew what they were about when they elected Judges! The reckless imputation of corrupt intent is a most disgraceful feature of modern politics. A Society designed and founded to promote the refinement of life, in so far as that may consist in the culture of Flowers and Fruit, should scorn to lower itself to the plane of the blatant demagogue. The Judges themselves have a right to claim more than bare protection: absolute exemption from attack should be a privilege of their arduous, if honorable, position. Otherwise, their office will become, and remain, vacant; and you will search in vain for incumbents capable to fill them and willing to become targets for abuse.

Asked, years since, by your *Secretary*, to what he attributed the continued prosperity of the Massachusetts Horticultural Society,—MARSHALL P. WILDER replied—"Because it has kept clear of the shop!" If that was a necessity to the pioneers, how much more essential must it prove to an association like this, explicitly pledged to "advance the Science and encourage and improve the Practice of Horticulture!" The shop despises the ideal. Will

it sell? is its greeting to him who would introduce, or cultivate, new varieties of flower or fruit. The shop has slight respect for flavor—*per se:* its utter lack is not a disqualification, if the specimens are salable otherwise. And so the professional florist cuts for the market, as it presents itself to him, or he finds it; contenting himself with the jingle of shekels in his pocket, and calmly indifferent, the while, to the raptures over that beauty and perfume wherewith the eye and soul of the Amateur are charmed to ecstacy. Likewise with him whose chief aim is to make merchandise of his fruit. The Bartlett and Seckel have fought their own way to recognition. But with him, the Boussoc or Clairgeau supply a demand that could never be appeased by the Comice or Winter Nelis. His business is to get a livelihood! and *not!* to "encourage the Science or promote the Practice of Horticulture."

On the other hand, it is our professed purpose to develop and improve the popular taste. Should it not be our set aim then in every official act? The florist, as such, cannot be expected to deny himself profit; or to withhold his first and choicest floriage, that this or that Horticultural Exhibition may show points of pre-eminence. The hard-working orchardist—if he follows general farming, must realize a speedy income from his trees; and finds neither leisure nor inclination amid his other engrossing occupations, to sow, engraft, or to purchase and plant out the more promising novelties. So that it reverts, after all, to amateur horticulture that there may be hope and promise for the future. The amateur is willing to wait for his recompense. Too often alas he must go without it; his toil and patience returning only disappointment and blighted fruition. It rests with him, however, to try and try again; assured as he is, by his own long experience, and the test of others, that the cloud has a silver lining, and that there can be no loss to the patient waiter. This philosophy should become the wisdom of our Society, inspiring its counsels and directing its policy. So shall it continue to be, what it was intended from the first, and so far has approved itself; an honor to its founders and a blessing to the community wherein it exists.

The Twenty-first Session of the American Pomological Society was held in Boston, this year, according to appointment. It

was held there to gratify MARSHALL P. WILDER, whose ardent wish was, once more to meet those who had been his life-long associates, in a pursuit not over-crowded, because its prizes are few, and what there are, devoid of glitter. And to greet them, if it might be, as the fitting close of a career, commencing before the memory of many now living, honorable in itself, and which we, his survivors, may characterize as without spot or blemish. Such fortune was not permitted to him; and therefore perhaps to many present there appeared to be something lacking; an absence of the *genius loci*, as it were. Boston, at least, can comprehend the palpable void in the procession, heretofore so auspicious, of her wonted household gods. HOVEY, and MOORE gone; BARRY not sufficiently recovered from his recent sea voyage to put in an appearance; MEEHAN away; nothing of JOHN J. THOMAS save his manuscript,—clear, concise, and replete with intelligence as that ever has been; *Secretary* GARFIELD detained by illness! does it not seem that the letter from Columbus, Ohio, in the *Country Gentleman*, was prophetic,— wherein was expressed the fear pervading Horticultural circles lest the American Pomological Society had seen its best days!

And still BERCKMANS worthily succeeds the giants of old. Garfield survives temporary disability. Barry, and Thomas are yet of us, if not always with us. And if, in the fulness of time, the torch must pass from the relaxing grasp of the former, at least it will be transmitted to no incapable nor unlineal hand. For the rest,— the shaping of the future will lie with the coming generations. The Pomological Society, like every other institution of man's contrivance, will become what our children choose to make it. And, as we cannot, nor would, dictate to them concerning matters whereof they should be the better, because contemporaneous, judges; we can only guide their action or opinion by our own faithful record, in which success or failure shall be blazoned, as it was achieved, or suffered, in no vague or dubious manner.

The display of Fruit, as a whole, scarcely equalled that of A. D. 1883, in the same city. Perhaps some of the effect of magnitude was lost by reason of the ampler rooms of the Massachusetts Charitable Mechanics, which, as experience demonstrated,

were altogether too spacious, besides being inconvenient of access. There were, however, notable collections, gathered and brought in admirable condition, from remote sections of our common country, wherein the tomahawk and scalping knife were, but very recently, the tools in general use. Perhaps the most marked feature of the entire display was that which revealed the rapid development of viticulture. New varieties of Grapes were almost countless in number, even if their excellence was not always apparent at first sight. In this respect, the meetings of the Pomological Society are of chiefest utility. For novelty must be proved,— not simply asserted; and the baptism of an old sort with another and higher-sounding name will scarcely pass muster beneath the scrutiny of such acute and competent critics. At the same time, whatsoever has merit will be readily and widely disseminated, after impartial and thorough tests and ultimate acceptance.

The following named Delegates were duly accredited to the Twenty-sixth (26) Session of the American Pomological Society, of whom the major portion, it is believed, were in attendance during one or more of its sessions: *President*, Francis H. Dewey. *Vice-President*, Henry L. Parker. *Treasurer*, Charles E. Brooks, and Messrs. Joseph C. Lovell, George Cruickshanks, Oliver B. Wyman, Newell Wood, Charles E. Parker, O. B. Hadwen, William H. Earle, Frank J. Kinney, George C. Rice, Charles Greenwood, Freeman M. Marble, Adin A. Hixon, Hermann F. A. Lange, George F. Coe, George H. Rich, J. W. Powers, and *Secretary*, Edward W. Lincoln. A special commission was also issued, by direction of the Committee on Arrangements, empowering James Draper, Esq., Judge of Awards for Fruit, to particularly represent this Society in any discussions upon the revision of the Pomological Catalogue.

Of the larger and nobler Fruits, no new varieties have challenged our notice as a Society, during the past year. It has been the off-season for Apples, it is true; although a lack of novel species and kinds could hardly be referred to generic irregularity or barrenness. The *Dawson*, that held out such promise, is not yet widely disseminated, is perhaps little known, and therefore no estimate can be formed of its future positive value. It can

only be recollected as of bright promise for beauty, and flavor, alike. But there can be no doubt that there have sprung up, unnoticed and unknown, on many a hillside, and by countless stone walls, seedlings from that best of all fruits, the Apple, which, if secured and thoroughly tested, would approve themselves fitting successors to the Baldwin and Hubbardston Nonesuch. Were such not the fact, we should be justified in assuming the decay of Nature and that her immemorial processes of reproduction were in abeyance or had ceased utterly. Yet, if we do not see it, we are sure that semination is constant, and will be continuous so long as gravitation is a law. We ought not to rest idly content with the varieties that we have, excellent as many of them are. There is need, as foreign markets open; and there will be opportunity as quickly as our people learn that commerce means mutuality of benefits, and is not fostered under duress; for a variety with the firmness of the Baldwin, that will keep sound like the Hubbardston, but shall possess a flavor in which both are confessedly deficient. An apple, in short, of attractive appearance and of decided pleasant character, as it were. Would it not pay to originate such a fruit, think you, at least as well as potatoes or hay in August, 1887, when the windows of heaven are left open? And would it not yield as fair returns as those hopeless mortgages in far Utopia, whereof the re-imbursement is barred by local statutes, if not even resisted by force of arms! The man whose greed stretches out into remote regions for cent per cent in the end bemoans the loss of his principal. The good citizen, on the other hand, who devotes his increasing resources — the accumulation from a keen foresight and wise frugality,— to the improvement of his actual estate,— accounts to himself with certainty, in the ultimate disposition of his affairs, for a peaceful life, a clear conscience, and, best of all, freedom from debt!

But,— it is objected,— the development of new varieties exacts time and patience in a measure and to a degree that we cannot afford. What can you afford? To take your ease, bodily, abandoning your pastures to the invasion of White Birch? To "invite your soul to loaf," at convention and picnic, dispensing with the primeval curse by a majority vote, and usurping to yourselves

"unearned increment" at the expense of your fellows, whose hardly-earned property it became by the sweat of the brow! But,—mayhap you search for the philosopher's stone! and fain would find it in a pedigree. Does not that wild chase require toil? Milk, or butter, are ready to hand, but no! pedigree is what cows were intended for,—and is the *sine qua non.* And therefore, large sums are lavished, much thought perverted, many valuable animals discarded, or wantonly sacrificed to a reckless fancy if a flaw can be found in the pedigree,— though the udder may be full to overflowing!

But to what better use than the renewal of our Apple-Orchards can our waste hill-sides be subjected? For what more profitable purpose can the manure from those Ideal Herds be applied than the nutriment of those young fruit-bearing trees? No! have your cattle on a thousand hills, if you prefer. But, upon occasional slopes, here and there, sow seeds from the Baldwin, Greening, or Spy — not forgetting the almost obsolete Porter, foster the growth of the young sprouts, hasten the test of their quality by both bud and graft, and having proved all things hold fast to that which is good. When obtained,— don't go to your hammock! On the contrary,— keep close watch for canker worm or caterpillar, which exterminate at once! Prune seasonably and you will be certain to do it reasonably! Enrich in Autumn with a covering whose lumps the frosts of Winter will leaven and thereafter, if you will not suffer your tree to bear a dozen barrels, in lieu of six, you may gather where you have strewn, for the remainder of your life.

Take again the Peach! of which delicious fruit such superb specimens of local growth were exhibited upon our tables, this very year. How many palates were feasted; how many purses re-inforced, from the produce of the occasional tree that was suffered to remain because it would be too much trouble to uproot it! And yet, time and again have you been reminded of the notorious fact that the Peach was once as much at home in this vicinity as the Cherry, and approved itself to the full as capable of withstanding climatic extremes. Between A. D. 1842, the date of incorporation of our Society, and A. D. 1860, the number of exhibitors of Peaches varied from Thirty (30) to Sixty (60);

seldom falling below the smaller number, and oftener exceeding the largest. A. D. 1860–61, occurred a winter signalized by a blizzard that so reduced the temperature as to split open the trunks of the Stone-Fruits, blighting them root and branch. What with this wholesale destruction and the concurrent outbreak of Civil War, is there reason for wonder that Orchardists became discouraged? The recovery has been slow. But is not one reason to be found in the reliance upon stocks enfeebled by excessive bearing, or intense frost; and the failure of recurrence to the lavish bounty of Nature? Whence came originally the Cooledge, and Royal George, the Crawfords and Large Red Rareripe? Are there not fish in the sea as good as ever were caught?

And still the question is an uncomfortable one, confronting us at every turn; one that will not be suppressed by assumption, or conceit of superior wisdom. Take, for illustration, the Potato! that most valuable of the esculent plants—unless we except Maize—which man has subdued to his own use and nourishment. Where are the Mercer, St. Helena, or Jackson White? all, in their day, of admitted excellence and in general cultivation. Do people grow them by stealth, dig them furtively, and jealously guard the secret of their exclusive treasure? Or have they actually disappeared, leaving no trace! Have we not instead various Roses, Pearls of Savoy or elsewhere; Beauties of Hebron, and less sanctified localities; with Potentates, whose sway is restricted to the domestic hearth! What is the legitimate inference from the facts as they appear before you? Do we not owe every variety of Potato, in common cultivation, to the labors of Goodrich and Bresee, with their co-adjutors, who recognized the existing failure, and for its remedy went back to the origin of species? It has seemed to your *Secretary* a part of the Natural Law, as it were, whereby it is decreed that life shall depend upon labor and that man's bread shall be earned by the sweat of his brow. Could we count with perfect assurance upon the precise return from our toil; could we plant and know that we should certainly reap thereafter so many bushels to the acre, without further trouble on our part; the strongest incentive to individual industry would be removed. Varieties become less and less prolific until they are found wholly unprofitable. The soil will not yield an average

crop, coax or fertilize it as we may. Then we sow seed or plant tubers brought from afar, and lo! once more the earth gives of her increase and the granger needs, and feels able to build, another barn. Do varieties degenerate and disappear? The continued existence of many to this day weighs heavily in the argument for the negative. Yet, from careless cultivation, or the entire neglect of it, it is beyond dispute that many kinds become scarce and finally cease to find favor because of the degeneration from such treatment or rather abuse. Facts can be alleged upon either side of the contention. Let it be the aim and effort of this Society, if varieties of approved excellence can be perpetuated by diligence and proper treatment, to see that nothing is omitted that may enure towards the accomplishment of that end.

But, after all,—shall not old things pass away and all things become new?

At the very last Exhibition which *Mr.* Joseph C. Lovell attended, he concurred with your *Secretary* in the opinion that, of all Pears of foreign origin and recent introduction, *Ansault* is easily the best. It would appear designed to supply the place of Belle Lucrative; manifesting the same extreme fecundity, with similar juiciness and a much higher flavor. Its season endures for weeks and, taken all in all, it is a decided acquisition. As much may be alleged of *Dr. Reeder;*—an older acquaintance, whose surpassing excellence was especially evident, this last Autumn. And it may be appropriate here, and in this connection, to repeat the hope that EARLE'S BERGAMOT shall be disseminated more widely. This local novelty commended itself to critical judges, A. D. 1887, as never before. As the one Pear of pre-eminent high quality,

> "Native here,
> And to the manner born,"

it merits peculiar encouragement. As a memorial of that honored associate, whose whole life was a continuous service to this Society, it ought to be more widely diffused. Saved from extinction by a lucky chance; and propagated, at present, by a very few; there is great danger that it may be utterly lost, unless its scions are taken from the scant town gardens wherein it is now appreciated and dispersed among the Pomologists of the County.

A summary of the returns of the Fruit-crops in Great Britain, compiled as late as August 20th ult°., may be of interest to you as disclosing the probable condition of what should be your own prospective market :—

"Complaints of the drought are general, as we have for several weeks had an unusually high temperature, with little, if any, rain. Apples are bearing well, but the fruits are dropping, and owing to the lack of moisture they are undersized.

* * * * * * *

"Pears are in a similar condition to the apples, the fruits small, and in some cases the crop is below the average. Louise Bonne de Jersey is one of the best, and other good varieties are Easter Beurré, Fondante d' Automne, Beurré Diel, Williams' Bon Chrétien, and Marie Louise.

"Plums are carrying heavy crops in some districts, and, of course, especially where water has been given freely. This season the Victoria variety is yielding abundantly where previously good crops of Plums have been scarce. Morello Cherries are reported satisfactory, and also the dessert varieties, but Apricots and Peaches vary in productiveness this season, the drought seriously interfering with the development of the fruit, except where especial attention has been afforded by watering, mulching, &c.

"The Strawberry season has generally been very short, though there was an excellent promise, the plants flowering freely; but the fierce heat burnt up the fruit in many places, and rendered the flavor of those that were left insipid and poor."

Et sic ubique. Always and everywhere a complaint of Drought, the soil of England withholding increase because her skies for a wonder are no longer dripping. And this, while you were literally drenched,—the downpour at times foreboding another deluge. Take heed, in your action as citizens, that you do not contravene the wisdom of Providence; nor suffer yourselves to be robbed of opportunities for the sale of your choice fruits in order that merciless greed may dam a stream and turn a mill-wheel! Live,—but, let live!

In another important particular was your good fortune worthy of especial note. The canker-worm,—our unfailing visitor for years, omitted his annual appearance. Whether the intense cold and excessive snows of the past winter may sufficiently account for this exceptional lapse; or it should rather be attributed to

some inscrutable law of nature which cuts short its career, just when it becomes most destructive; might be knowledge well worth possessing. In our positive ignorance, let us rejoice that we were spared, A. D. 1887, all occasion for studying that vexed problem.

Neither were the ravages of PEAR-BLIGHT excessive. Within the immediate notice of the writer, varieties usually first to succumb, were not even attacked. *Clapp's Favorite* escaped entirely, which could not have been said of it in any previous year. Sporadic cases are mentioned; but they are so few comparatively as to prove that, for some cause, that dread disease has at least paused in its deadly march. Bacilli, bacteria, microbes, fungi,— every form of primal infection that would degrade or impede the evolution of *Bathybius* in this sphere of vegetable organism, appear to have spent the season just past in innocuous desuetude.

Early in the season, your *Secretary* received a note from the Department of State at Washington, inquiring if this Society maintains a Reading-Room and can make proper use of the Consular Reports issued by the Department for popular information? The reply was prompt and truthful,— that no similar association throughout the republic enjoyed superior facilities or offered them more freely for the instruction of its especial community. As a consequence, those Reports have been mailed in regular sequence; and to their great intrinsic value your *Secretary* desires to invite your serious attention. Since, in them can be found intelligence gathered by shrewd, quick-witted men, stationed in every part of the globe; whose task it was erstwhile made, what has long been a welcome duty, to take cognizance of the production and traffic of the several countries wherein their lot might be cast. Would you learn about the area, under forest, in Australia; forest planting at the antipodes; the reclamation of sand-dunes and waste places by afforestation? You can find the learning connected therewith upon those pages. Are fertilizers of interest to you, whose soil has lost its virginity; and who would fain restore, quickest and cheapest, the essential elements whereof it was early deflowered? Read, in the Report from Germany, of "Thomas slag";— its character, and how rich it is in phosphoric

lime! Would any of our Trustees become candidates for Governor, upon an ascetic platform? From those Consular pages they will ascertain how Alcohol is extracted from the Sweet Potato, in the Azores; and may ponder upon the application, at home, of that funny law of Switzerland, whereby the Helvetic Republic grasps to itself the exclusive right to manufacture and import liquors, peddling them at pleasure! The Pomologist may study, with advantage, the returns from Nova Scotia, which disclose the extent of the trade in Apples between that Province and England; and can thereby inform himself how formidable is the rivalry wherewith he will have to contend. If observant,— he may note the confirmation of the assertion by your *Secretary* in his latest Annual Report, that the Orchards of New England could sustain the commerce of a nation. Would Congress but realize that there must be two parties to traffic; that the profit cannot enure to one side only; and that in the free exchange of what we have to sell for that which we better buy, ample provision is made for cargoes both going and returning. The "home-market" we have virtually monopolized: but it will not consume our Apples. Great Britain is willing enough; but she wishes, like ourselves, to pay in barter. So, we let our fruit rot; we see our commerce perish; building yachts to show what we might do were trade unfettered: and continue stolidly the wholesale importation of Swedes or Armenians that "home-industry" may be protected! "Having eyes, see ye not? And having ears, hear ye not? And do ye not remember" what was done by Duncan C. Pell, and his compeers of New York, in the olden time?

"Bulletins" issued by the Agricultural College of Michigan are regularly received and may also be found upon our tables. They will repay your study, being based upon close observation and controlled by a rigid regard for accuracy. One of the most recent,— upon "Forest Products of The Museum of Economic Botany;"— is a forcible exemplification of the truth that more real wisdom may be latent in facts of common occurrence, that are dismissed without notice because of their very frequency, than in those which we cannot help observing,— since they are sharply and simply obtrusive. According to "Bulletin No. 28,"

the Museum of Economic Botany must be rich in the lore of those things that we overlook because under our very feet; and its bare catalogue is suggestive of an object-teaching which, however deserving of praise in itself, gets its worthiest laud from its incitement to emulation in the same walk. Were the value of the privileges accorded in the use of our Library more thoroughly appreciated, this Hall of Flora would never be without its throng of students, in their hours of leisure. It is of little avail,— the mere accumulation of printed pages. Properly used,— they become priceless. It depends upon the members of this Society whether such talents shall remain buried in sheep-skin, or immured in boards.

You have heard, doubtless, of "unearned increment." By that expression is not intended the gain from the apple-crop remaining to an Orchardist who is too lazy to destroy the Codling Moth or Canker-Worm. But rather that superfluity of wealth which oppresses Corporations like this; after the Assessors have equalized values, as the Euphemists term the latest turn of the screw; jacking up where there has been a sag; and drawing at foresight upon posterity, whose hindsight will accept the draft! The General Court, some time since, granted Horticulture a qualified relief from burdensome taxation. We were to be exempt, in so far as our Hall might be used for our declared purposes. We can let the Hall of Pomona; applying the revenue from Dance or Song, and it shall concern no one. But,—if we lease our stores, devoting the rent gained from them to the very same purpose, tribute must be rendered unto Cæsar. So that Valuation and Rate both increasing, in Worcester, the Society finds itself now, where it was when it first sought relief from unjust or invidious discrimination. Of course,—all citizens fare alike in this Earthly Paradise! The Horticulturists expelled from Eden, because forsooth they would test their apples,—fare the same as the Elect who go it blind! Still,—What is the meaning of the subjoined paragraph from the *Daily Spy*, of June 17th, A. D. 1887?—

"There has been a rumor going the rounds for several days to the effect that E. H. Stark & Co. have been storing boot and shoe uppers in the basement of Trinity Church. A *Spy* reporter

visited that place yesterday and found about 600 cases of goods stored, but every case was made up and ready for shipment, which will probably be in about two months. This place has been used for the same purpose by other firms for several years."

The Assessors doom no portion of Trinity Church, although the Statutes expressly declare that "portions of houses of religious worship appropriated for purposes other than religious worship, shall be taxed at the value thereof to the owners of the houses:" notwithstanding the notorious and offensive fact that its basement has been occupied for years as a Warehouse for the Storage of Boots and Shoes! Was a single cent ever contributed to the State or Municipal Treasuries, by the Central Parish, during all those years when *Col.* Drennan was cramming its ground-floor from mudsill to rafter, with casks of prohibited Bourbon and Medford! An exaction of Five Hundred and Eighteen Dollars ($518.00) goes to make good any deficit for the support of the Police, or Fire Department, that such inequitable, because partial, exemption, has tended to create.

The Bay State Agricultural Society, whose performance more than fulfilled its promise, during its first year of existence; and whose active work, it is to be hoped, will not end thus prematurely; has published offers of generous prizes in money for the three (3) best essays on any agricultural topic. Is there not herein the hint of a policy that might be worthy of our imitation? Why should not this Society propose liberal recompense for Horticultural Essays, to be delivered on afternoons of Winter, to be followed, if found advisable, by meetings wherein informal discussion should elicit valuable experience? The practice of this Society, some years ago, when gentlemen from various portions of the Commonwealth laid before you, in this Hall of Flora, the ripe results of their theory and actual experiment, must be fresh in your recollection. That example followed by the Massachusetts Horticultural Society, has since done much to re-vivify that old, sluggish, and sometime—inanimate Association. What the practice accomplished, for your own needs, has not to be recited here, or now. But, by such methods better than any other, are we enabled to learn of novel discoveries; to determine

the precise worth of unusual ways of cultivation; to decide between the genuine scientist and the glib charlatan; and generally, by the interchange and comparison of opinions, to avoid, or extricate ourselves from the ruts into which Societies, like communities, are apt to waste their strength, unless sharply watched and occasionally startled by the introduction of unwonted forces. Your *Secretary* would not advise too great haste in this matter, should the suggestion meet with your approval. The Winter-season of A. D. 1888–9, should be soon enough for the project to come to a head. Before that time, the entire scheme could be elaborated, in ample leisure for themes to suggest themselves; and for all who cared to be essayists, to do themselves and their subjects justice by adequate preparation. Since this Society would never offer premiums or any other encouragement for a mere re-hash from the Encyclopædia, it might well invite, and suitably reward, that combination of sentient brain-work and watchful labor whereby the latent laws and silent forces of Nature are keenly traced and sedulously pursued. There are Horticulturists in plenty who go through the world with their eyes open; and whose conclusions would be worth knowing; who might perhaps be persuaded to communicate of their knowledge, upon sympathetic and sufficient inducement. There are problems in Pomology that vex us continually upon which a ray of light might lead to a subsequent illumination. Modesty must be drawn out from its seclusion and brazen impudence repressed if we desire effective achievement. And to decide the relative excellence of the Essays it might be left with a Committee to consider which treated of the most weighty topic, and most thoroughly elucidated the matter under consideration. Or the superiority could be estimated by propounding certain well-defined themes and judging of the completeness and merit of their treatment. Your *Secretary* would advocate the allowance of absolute freedom of choice to Essayists in the selection of their subject-matter, having no faith that shackles aid either mind or hand to do their best work.

The Gardeners' Monthly and Horticulturist upon the text of "Individual Horticultural Exhibitions," in one of its more recent

issues, thus expresses some views of its experienced and veteran Editor:

"We have repeatedly shown that, with a few worthy exceptions Horticultural and Agricultural Societies have not progressed as the world has moved. The best people among amateurs neglect them, while exhibitors have to be almost tearfully besought to rake up something to fill the room. Yet there are exhibitors in numbers if it were made their interest to bring out their products; and thousands ready to patronize any work of excellence in the gardening world.

"Private parties are undertaking to do the work of exhibiting, independent of societies."

Is that broad statement of what may be a general truth applicable to ourselves, here in Worcester? We can neither ignore nor overlook the fact that Agricultural Exhibitions had so far deteriorated, that extreme measures became necessary to resuscitate societies, almost overwhelmed by a load of debt, from which extrication was rendered hopeless by the lethargy of members. Nor, while the trial of a cure by the galvanic process is still in course, can we dismiss the fear that such treatment is not sufficiently radical for the disease; and that a body which supplicates the merest *simulacrum* of an origanized association to uphold its arms—"*stet nominis um râ*"! *Professor* Meehan instances the work of private individuals as obviating the need, or forestalling the task, of Societies. Yet, this is no new thing under the sun; nor is that result inevitable. He,—better than most,—can remember when Caleb Cope first displayed the superb flower and curious leaf of the *Victoria Regia;* all Philadelphia flocking to see the rare beauty. Your *Secretary* vividly recalls the exhibition, in Worcester, by the late D. Waldo Lincoln, of a specimen of that aquatic plant; *Mr.* Lincoln being indebted for it to the courteous liberality of that princely merchant. Many a specialty has been shown since, here and elsewhere, in public hall or private dwelling; in which latter, indeed, the Cereus is getting to bloom with a monotonous and depressing frequency as the shades of night deepen and recede.

The Professional Florist, or Market Gardener, is, as it were, ever on parade: the requirements of their business exacting that

their products should be kept in as attractive a condition as possible. Yet,—notwithstanding the fluctuations in popular taste,—possibly somewhat in their despite;—it is permitted me to assert here, with entire truthfulness, that the Exhibitions of the Worcester County Horticultural Society, in this Forty-Fifth (45) year of its official existence, still deserve, and are rewarded by, public appreciation and encouragement. Of course the crowd in attendance is greater at one time than another. Some will come in June to behold Roses, and Strawberries; who do not care to look upon Apples, or Asters, in September. And also it may as well be confessed that there are times when it goes hard with officers and exhibitors alike: times when the elements frown and insect-plagues discourage; and the mountain or sea-shore,—mayhap a Musical Festival! distract or divert. But, throughout all, the calm observer notes a steady advance; a marked, if not uniform, development in the line of improvement towards perfection. The work of Horticultural education is continuous; nor in its *curriculum*, as nowhere else, is there a royal road. Our ranks are sadly depleted, at times; of late, to a grievous extent. But the places of those who were taken have been made good, so far; and it is not a baseless hope that youth and generous emulation shall succeed to age hereafter, as in the past. To maintain our present high standing (and how high it is actually as well as relatively, I fear that few realize, who hear me); we must tolerate nothing but absolute excellence. Encourage first attempts, when you can; favor and lend aid to experiments which may tend, or promise to "advance the science and encourage and improve the Practice of Horticulture;" but never consent to abase your standard which, for now well-nigh upon a half-century, has been full high advanced; with each recurring year the exaction being more and more rigid that Flower, Fruit, or Vegetable, should be completely free from blemish, or defect, whether in appearance or essence.

But still, it may be urged,—the Worcester Agricultural Society professes to hold an annual exibition of flowers, fruit, and vegetables, after once relinquishing the practice upon mature deliberation; and that therein may be implied and found some manner and measure of discouragement. Our Society, however, does not

hold exhibitions to attract the groundlings, to fill a vacuum, or to advertise demagogues. A display of Apples or Pears, Grapes or Peaches, Flowers or Plants, that might be left over, after the choicest had been culled out to satisfy our exacting Judges of Award, could threaten no interference and arouse but feeble interest in this Hall; wherein, throughout Worcester, Flora and Pomona find their truest, because especial, devotees. Such collections, or congeries, of job lots, may blend in happy apposition with horn or hoof. If they provoke fun, and supply amusement, there; most assuredly they do no harm here. Possibly, they may draw a shilling, and so—achieve their exalted aim!

Yet,—objects another, the Grange goes to Boston and gathers medals and shekels from a competition of undoubted excellence! Well,—is the Grange inimical to this Society? It has not so appeared, heretofore. Its members are among our most active and valued associates. Whether that display of Apples merely, extended and fortified by such a collection of other fruits as might properly have enlarged and glorified it, should not have been our Exhibition, may well enough excite reflection among the Horticulturists who suffered the opportunity to go unimproved. Your *Secretary* feels certain that the actual effort was attempted without the slightest unfriendly purpose towards this Society: nor can he understand why our own lack of enterprise or gross *lâches* should incline us to depreciate the well-doing of others. Still,—should co-operation fail us; should those who have been our associates, hitherto, faint or fall by the wayside; or, more grievous yet, suffer themselves from whatsoever cause to become alienated; should hostility be aroused, grow flagrant and prevail against us, so that we might elect to travel in other than our wonted chosen paths; it need not be assumed that we shall be left without resource. It will remain with us, even then, to carry out the lofty aim and intent of our Charter. We can continue to "advance the Science and encourage and improve the Practice of Horticulture."

By precept and example, by seed and scion, by essay and lecture, in every way known to man that proves an honorable incentive, short of barren pedigree, tiresome interference, or foul over-reach, we retain and can preserve our existing priority and

especial privilege. For, with one or two rare exceptions, throughout the entire world, it should be our pride ever to bear in mind that Horticulture first assumed a noteworthy position in this our goodly County; and that the original assumption of a prominent place has been always since, and in every way justified by its fruits, wherefrom was it the assurance of old should come knowledge. Our means, prudently husbanded, are ample for all appropriate purposes. We can afford premiums when they answer their ends without a resort to side-shows of cuttle-fish or mermaid. If our Exhibitions shall be found to fail of their object (which is not to distribute so much net income!) it will be practicable, as it will become expedient, to do our particular share towards perfecting that university of local ambition, by resuming to ourselves the peculiar chairs of Botany (inclusive of Pomology), to a certain extent, and with some degree of heedlessness, of recent years neglected, if not abandoned.

But Twenty-six Honorary Members have been enrolled by this Society throughout its existence of well-nigh a Half-Century. Of that limited number *Ten* survive; two,—and they among the most eminent, having been taken from us during the past year. It were needless here to pay a tribute of commendation to MARSHALL P. WILDER, or CHARLES M. HOVEY, so fittingly has it been done elsewhere,—so widely and well were they known. Yet it is due to Charles M. Hovey to state that the value of his labors to Horticulture in Massachusetts, can never be exaggerated. His Magazine—conducted almost unaided; maintained without adequate encouragement; became yet by the force of his resolute will and the scope of his individual intelligence, a most potent agent for preserving and diffusing all sound floral and pomological knowledge. Commenced when there was most need of it, that publication saw the birth and death of many pretentious rivals; and only terminated its own career when its appointed work was largely accomplished. The perusal of its earlier numbers was one of my youthful enjoyments. Nor can I doubt that it must have been from a "carousal"* of those pages that the "farm-

* "And now,"—said old Gen. Burbank,—"We will carouse the *Spy* !"
E. W. L.

hand of Samuel M. Burnside" aroused himself to denounce *Ex-Gov.* Lincoln for suffering Levi Gates, honored of his day and generation, to show what he might be presumed, by blatant ignorance, *not* to know about pruning an Orchard!

It was the felicity of Mr. Hovey, not only to conduct the pilgrimage, but also to be permitted entrance upon the Promised Land. Occurring but a few days prior to the meeting of the American Pomological Society, his death might seem untimely, if not premature. But what could his bodily presence matter, when his spirit was everywhere pervasive? To him as much as to any one, had it been owing that such a Society could even be organized. To him, more than to any one else is it due that Massachusetts can invite the Florists and Pomologists of America to Boston or Worcester, and find no cause to blush for her proffer of hospitality. If that Commonwealth was esteemed rich, when she could count Wilder and Hovey among her treasures, what must have been the measure of her opulence when their loss with that of Moore, has not left her hopelessly bankrupt!

When your Secretary looked for the name of John Brooks Moore, to register against it the date of his decease, it was not to be found upon the roll of our Honorary Members. This omission, for it was and could be nothing else, alike surprised and grieved him; nor less others to whom he mentioned the oversight. Admission to our Honorary Membership, hitherto so jealously guarded, is an honor indeed. But no man lives who could challenge the title of John B. Moore to be welcomed among us,—whether because of eminent distinction as an all-round Horticulturist, or on the more direct behoof of his particular service to ourselves. I waste none of your time, enlarging upon his achievements as a Rosarian; frequently as they were made known to you through his lavish contributions at our Meetings. At one of our last interviews he urged me to do what I could to get up a special display of Roses,—and of nothing besides,—as he emphasized it; pledging himself to fill our Hall, if others would not, that the credit of the Society for keeping its faith might be maintained. Neither shall I here, or now, dilate upon his good work as a Pomologist, wherein as a viticulturist especially, he conferred untold benefit upon this Commonwealth

and the entire Republic. To his acute perception the merits of the Concord Grape were at once obvious. Whatsoever the rank of that variety now, let it never be forgotten that to John B. Moore is it due that it was not lost in its first development; and that its decided advance upon anything theretofore cultivated was and has since been generally accepted. That he improved upon it, diversifying color and augmenting flavor, is only what would come naturally enough to him. But there are some in this Hall (not many I trust), to whom his immediate services to this Society are unfamiliar, or may have faded into a faint reminiscence. Other some cannot forget how often he obeyed your summons to discourse of his favorite flower, pre-eminent in itself, but to which his unsurpassed skill of cultivation seemed to add new charms. How it happened,— with the consummate taste which he invariably manifested in other respects, that he cared so little for the perfume of the Rose, was ever a mystery to the writer. Save for that he craved and achieved perfection. In all the Massachusetts Society, with its merited or factitious prestige, no Rosarian approved himself his peer. Possibly, in the New Jerusalem, he will be brought to admit that his judgment lacked in one particular: and that, as between the flowers of sulphur and the frankincense of Araby The Blest, fragrance is an element that cannot be denied.

In an obituary notice, wherein he received but scant justice, allusion was made to his keen sense of humor. Strangers, who beheld him for the first time, would not expect it: but, to some that were fortunate enough to enjoy his friendship, it was not a rare sight to behold that giant form shaking with half-suppressed laughter over some rich and ripe old joke. He loved fun and thoroughly assimilated an infinite jest. The writer will never forget how he chuckled when narrating the discovery, by himself, in Concord, at a most opportune moment, of the Philosopher's Stone!

John Brooks Moore was a typical Massachusetts yeoman, if such ever lived. The place that he easily filled is vacant. The aspirants who would rattle around in his shoes may be a legion in number. But which of them all can deepen the impression that his daily walk made upon this our solid earth?

On Sunday, August 21st ult°., he dismissed all care for worldly petal or bloom.

The announcement of the death of JOSEPH C. LOVELL came upon the executive officers of this Society as with a shock of personal bereavement. On the 8th of September, ult°., he was in our Hall of Pomona, consenting to be a delegate to the coming session of the American Pomological Society; in whose object and work he ever took deep concern; and giving cordial sanction to the proposed omission of our own Exhibition, appointed for the 15th, although, as he told your *Secretary*, he might thereby lose an opportunity to show certain grapes of his individual growing and preference. On the 19th, he was dead. His visits to this Hall, where the obstacles were not insuperable,* occurred at a time of day when, of necessity, few were present. He came in usually, at noon; arranged his fruit,—sometimes the exquisite floral specimens of his daughter; if her absence, as is too often the case, was enforced; and then departed for West Boylston to uphold the faithful prosecution of labor at his homestead. Joining our Society, A. D. 1865, at a period when it became the boast, or deceitful profession of every other man in the Commonwealth that he Knew Nothing! Joseph C. Lovell came among us with his honest if rugged countenance; with a heart that held no guile; bringing with him ever a breath of fresh air; his contributions to our shows always new and excellent; his experience sooner told than withheld. He indeed, could not be impatient with any one who commended himself as an earnest seeker after truth. For such, when approved by his calm judgment, too much trouble could not be taken in the way of object-teaching and tireless instruction. Of late years his attention was closely turned, I had almost said confined, when I timely recalled what he was ever doing to test new Pears, towards Viticulture. To him,—more than to any and all other men,— do we owe the dissemination of the Rogers Hybrids; their wide propagation; the firm assurance of their good qualities; and the conviction that they,

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* September 8th, the last time that the writer saw Mr. Lovell,—in life;—he excused his absence, on the previous Thursday, by mention of the destruction of bridges, and washing out of roads in the rage of the furious rain-storm, the week before. E. W. L.

distinctively from the whole genus, most completely, as yet, fill the demand for a grape that shall at one and the same time, crown the dessert and appease the appetite. What is perhaps unusual,— to Mr. Lovell there was ever a fresh charm in novelty. He differed from Solomon and never doubted that some new fruit could be found under the sun. He was one of the earliest to introduce the *Ansault;* and to his efforts may we attribute our recent acquaintance with that decided acquisition — *Petite Marguerite.* Shall we, his survivors, rest supine in torpid contentment with what we now possess? Or rather shall we imitate him,— maintaining a constant outlook to gain and test whatsoever is of good report!

As a member of our Board of Trustees Mr. Lovell approved himself conservative and sound. He recognized in the vicissitudes of business the need of careful regard for our probable resources; perceiving as all should, that Real Estate, with all its solidity and permanence as an investment must ever be subject to depreciation. He believed that our Debt should be discharged as soon as possible. His presence is lost to us. We are deprived of his sagacious counsel. But we can cherish his memory by pursuing the policy that he steadily approved, and by following the example he illustrated, so consistently, throughout his useful and honored life.

Joseph C. Lovell died at his home in West Boylston, September 19th, A. D. 1887.

All which is respectfully submitted,

by

EDWARD WINSLOW LINCOLN,

Secretary.

Horticultural Hall,

Worcester, Massachusetts,

November 2, A. D. 1887.

REPORT OF THE LIBRARIAN.

To the Members of the

Worcester County Horticultural Society:

Your Librarian submits herewith his annual report. There is nothing especially noteworthy to report in regard to the Library. Of its location and condition, its pleasant and comfortable room, you are all familiar with, or should be at least, for the Librarian is always glad to attend to calls for books and periodicals, when not otherwise engaged with the numerous patrons of the Hall. It will be remembered that last year a catalogue of the Library was prepared and published in connection with the Transactions of the Society. This Catalogue has been quite a help to those who have been accustomed to taking out books, as well as to the Librarian. Members who have joined the Society the past year, who have not received copies, can obtain them by applying to the Librarian.

The number of books, papers and periodicals taken out during the year is 320. Those consulted at the rooms about twice as many more. Of the books purchased by the Library Committee the past year, the first fifty volumes of Curtis's Botanical Magazine may be considered the most important. This work was begun in 1787, just 100 years ago, and is still published.

To Horticultural literature the words of the preacher will apply as well as to other things:—"Is there any thing whereof it may be said: See this is new; it hath been already of old time which was before us." Many of the flowers grown to-day you will find illustrated and described in these works of a century old. Although these books are old, yet they are valuable, and the Society is very fortunate in obtaining them. Of the subjoined list of books and pamphlets added to the Library during the year 85 volumes have come from the American Antiquarian

Society, many of which are important acquisitions; particularly one complete file of the Transactions of our Society.

As the object and aim of this Society is the promotion of the Science of Horticulture, not the least important aid to that end was the establishment by the founders of the Society of this Library, and which has from year to year been enlarged by careful and judicious selection of the important works on Horticulture, and although we are admonished that "of making many books there is no end, and much study is a weariness of the flesh," we are quite sure that, as Horticultural students, we are not making such use of our facilities in this line as to injure our health or shorten our days. Below will be found a list of the additions to the Library during the year.

Feeding Experiment with Milch Cows. Mass. Agri. Experiment Station, Amherst.

Dictionary of English names of Plants applied in England and among English-speaking People, to cultivated and wild Plants, Trees and Shrubs, in two parts, English-Latin and Latin-English, by William Miller, London; Society.

Observations on a Disease affecting the eyes of Sheep. Agricultural College, Mich.

Gardening for Profit; new ed., 1887; 12mo.; by Peter Henderson.

Success in Market Gardening and Vegetable Growers' Manual; Illustrated; 12mo.; 1887; by W. W. Rawson; Society.

Curtis' Botanical Magazine; Vol. 42; Third Series; 1886.

The Journal of Horticulture; Vol. 11, 1885; Vols. 12, 13, 1886.

Fourth Annual Report of the Board of Control of the State Agricultural Station at Amherst, Mass.; 1886.

Report of Dept. of Agriculture; 12 Vols.; 1885; from Hon. George F. Hoar.

Circular of information, No. 2; from Bureau of Education; 1886.

Bulletin Nos. 23 and 24 Mass. State Agri. Exhibition Station.

Agriculture in some of its relations with Chemistry; 2 Vols.; 1887; by F. H. Stover; Society.

United States Consular Reports; 3 Vols. bound; 1884; upon Labor in Foreign Countries; from Dept. of State.

United States Consular Reports; 2 Vols.; unbound; 1883; Dept. of State.

United States Consular Reports; pamphlet on Trade Guilds of Europe; 1885; on Cholera in Europe; 1885; on Pounding and Polishing of Rice in England and Germany; 1885; on the Licorice Plant; 1885; also, 51 Pamphlets on various subjects from the years 1881 to 1887.

Bulletin No. 25, from Agricultural College of Mich.; subject: a disease of the foot of the Horse.

Herefordshire Pomona; 2 Vols.; Society.

Agriculture of Massachusetts; John E. Russell, Secretary.

Journal of Horticulture; Vol. 14; 1887.

Revue Horticole; 1886; Society.

The American Horticultural Monthly; Society.

The American Florist; Semi-Monthly; 1887; Society.

Gardening Illustrated; weekly pub.; 1887; Society.

Vick's Magazine; Monthly; 1887; Society.

The Garden; English Weekly publication; 1887; Society.

The Gardener's Chronicle; Eng. Weekly publication; 1887; Society.

The Agri. Gazette; Eng. Weekly publication; 1887; Society.

The American Agriculturist; monthly; 1887; Society.

The Gardener's Monthly; 1887; Society.

The Country Gentleman; 1887; Society.

The Massachusetts Ploughman.

The Worcester Directory.

Books and pamphlets from the American Antiquarian Society; 1887:—

The Working Farmer; devoted to Agriculture, Horticulture, Floriculture, Gardening, Management of Manures, etc., etc.; by James J. Mapes, LL.D.; Vols. 1, 2, 3, 4, 5; 1850–1854; 4to.

Transactions of the New York State Agricultural Society; 1847–1851; 1862, '63, '64, '65, '66.

Transactions of the American Institute of the City of New York; 1848–'51; '56–'57; '60–'66; 8vo.

Massachusetts Agricultural Journal; Vols. 1, 2, 3, 4, 5, 6 and 8; published by the Mass. Society for promoting Agriculture; 1799 to 1825.

Inquiries by the Massachusetts Society for promoting Agriculture; also, the act of incorporation of said Society. Rules and Regulations, list of Members and Premium list; 1792; 1 vol.; 8vo.

Farmer's Museum; 12mo.; 1801; Walpole, N. H.; by D. & T. Carlisle.

The Medical and Agricultural Register for the years 1806, 1807; containing practical information on Husbandry, Management of the Sick, etc.; Ed. by Daniel Adams, M. B.; 8vo.

Colman's European Agriculture and Rural Economy, from personal observation; by Henry Colman; Vols. 1 and 2; 1846 and 1849; Boston and London.

Muck Manual for Farmers; sec. ed.; by Samuel L. Dana; 1843; 12mo.

A Practical Treatise on the Management of Fruit Trees, with descriptive lists of the most valuable Fruits for general cultivation, adapted to the interior of New England; by George Jaques; 1849; 12mo.

American Swine Breeder; a practical treatise on the selection, rearing and fattening of Swine; by Henry W. Ellsworth; Boston: 1840; 12mo.

Downing's Fruits and Fruit Trees of America; by A. J. Downing; ed. of 1845.

Studies in the Field and Forest; by Wilson Flagg; 1857; 12mo.

Magazine of Natural History and Journal of Zoölogy, Botany, Geology, Mineralogy and Meteorology; by J. C. Loudon, F. L. S.; Vols. 1 and 2; 1829.

Essay on Quick-Lime as a Cement and as a Manure; by James Anderson, LL.D.; Boston; 1799; 12mo.

Magazine of Natural History; J. C. Loudon, F.L.S.; Nos. 11, 12, 14, 15, 16 of Vol. 3; Nos. 17, 18, 19, 20, 21 of Vol. 4; unbound.

Journal of the American Agricultural Association; 3 copies of No. 1, Vol. 1; 3 copies of Nos. 3 and 4, Vol. 1.

American Journal of Horticulture; Boston; Year 1867, except February number; Year 1868, except January and December numbers; unbound.

The Plough, Loom and the Anvil; pub. by J. S. Skinner & Son; Philadelphia; 69 nos. from 1848 to 1855; incomplete; unbound.

The Magazine of Horticulture; C. M. Hovey; 59 nos. from Dec., 1841, to June, 1868; incomplete; unbound.

Horticultural Register and Gardeners' Magazine; 1837 and 1838; incomplete.

Transactions of the Mass. So. for the Promotion of Agriculture; 1856, 1858 D, 1859 D.

History and Progress of the Mass. State Board of Agriculture for the first Quarter of a Century, with a report on fruits at the Annual Meeting, Feb. 5, 1878; by Marshall P. Wilder.

Biographies of Marshall P. Wilder; 1835 to 1878.

The Proceedings and Reports of the Massachusetts Board of Agriculture for 1851–52 D.

Genesee Farmer; Rochester, N. Y.; 30 nos. from 1846 to 1860; incomplete.

Transactions of the Worcester County West Agricultural Society, Barre; 1873, 1874, 1875, 1876.

Culture of the Grasses; an extract from the fourth annual report of Chas. L. Flint, Sec. of the State Board of Agriculture; 1860; 6 copies.

The Horticulturist; February, 1874.

Prizes for Arboriculture, offered by the Trustees of the Mass. Society for Promoting Agriculture; 1876.

Transactions of the Worcester Agricultural Society; 1874.

Proceedings of the Associated Agricultural Convention held at the State House, in Boston, Thursday, March 20, 1851.

Transactions of the Nantucket Agricultural Society; 1876, 1877.

Transactions of the Franklin Co. Agricultural Society; 1877.

Eighth Annual Report of the Worcester North West Agricultural and Mechanical Society, located at Athol, Mass.; 1874.

Seventeenth and Eighteenth Annual Reports of Hoosic Valley Agricultural Society, for the years 1876, 1877.

Twenty-Second Annual Report of the President, Treasurer and Librarian of the Mercantile Library Association of San Francisco; 1874.

Transactions of the Hingham Agricultural and Horticultural Soc. for the year 1871; with an introduction and an appendix.

Address delivered before the Worcester Agricultural Society, Oct. 12, 1820, being their Anniversary Cattle Show and Exhibitions of Manufactures; by Hon. Lewis Bigelow; pub. by Manning & Trumbull; Worcester; 1821.

Annual Report of the American Institute of the city of New York; 1846.

First Annual Meeting of the United States Agricultural Society; Feb. 2, 1853; President's Address.

Journal of the United States Agricultural Society; 1854 D; 1855; 1856 D; 1859, 3 copies; 1860, Nos. 1, 2, 3; 1861; 1880.

Papers on Agriculture; published by order of Mass. Society for the promotion of Agriculture; 1842, 1843, 1844, 1846; unbound.

Abstract from the returns of Agricultural Societies in Massachusetts for the years 1845 and 1846.

All of which is respectfully submitted.

CHARLES E. BROOKS,

Librarian.

HALL OF FLORA,

November 1, 1887.

REPORT OF THE TREASURER.

CHARLES E. BROOKS, *Treasurer*,

In account with the

WORCESTER COUNTY HORTICULTURAL SOCIETY.

1887.

To Cash on hand Nov. 1, 1886,	$2,208 09	
" from new Members,	71 00	
" " Chrysanthemum Ex.	106 90	
" " Worcester Association for protection of Fruit,	457 04	
" " rent of Stores 1 year,	3,241 64	
" " rent of Horticultural Hall,	2,948 57	
		$9,033 24

Cr.

By Cash paid Premiums 1886,	$1,663 09
" " Edward W. Lincoln, salary,	400 00
" " Chas. E. Brooks, "	1,000 00
" " Extra Labor, and sundry small bills,	305 21
" " H. F. A. Lange as Judge,	70 00
" " James Draper "	58 00
" " Chas. Greenwood, "	64 00
" " City of Worcester, Tax 1887,	518 50
" " " " Water,	63 84
" " Worcester Gas Light Co.,	279 55
" " Printing, Advertising and Binding,	339 71
" " F. W. Wellington & Co.,	63 25
" " Books and Periodicals,	149 33
" " Boston & Sandwich Glass Co.,	70 57
" " Insurance,	30 60
" " Joseph P. Mason,	24 08
" " Arba Pierce,	17 60
" " Denholm & McKay,	9 50

By Cash paid Edgar M. Bond,	7 50	
" " Evans & Co.,	7 13	
" " O. S. Kendall & Co.,	10 35	
" " J. Henry Hill,	5 00	
" " Mechanics Savings Bank Int.,	139 58	
" " " " " on debt,	1,500 00	
		$6,803 39
Balance on hand Nov. 1, 1887,		2,229 85
		$9,033 24

CHARLES E. BROOKS,

Treasurer.

HALL OF FLORA,

November 1, 1887.

WORCESTER, Nov. 1, 1887.

We, the undersigned, Auditors of the WORCESTER COUNTY HORTICULTURAL SOCIETY, hereby certify that we have compared the foregoing accounts of the Treasurer of said Society, for the years 1886 and 1887, with the vouchers presented by him and find the same correctly entered and footed.

HENRY L. PARKER.
EMORY BANISTER.

OFFICERS AND COMMITTEES

OF THE

WORCESTER COUNTY HORTICULTURAL SOCIETY,

FOR THE YEAR 1887-8.

PRESIDENT:

FRANCIS H. DEWEY, of Worcester.

VICE-PRESIDENTS:

STEPHEN SALISBURY, of Worcester; HENRY L. PARKER, of Worcester; GEORGE E. FRANCIS, of Worcester.

SECRETARY:

EDWARD WINSLOW LINCOLN, of Worcester.

LIBRARIAN AND TREASURER:

CHARLES E. BROOKS, of Worcester.

TRUSTEES (BY ELECTION):

George Cruickshanks, of Lunenburg.

O. B. Wyman,	Shrewsbury.	David L. Fiske,	Grafton.
Charles E. Parker,	Holden.	Henry B. Watts,	Leicester.
Frederick A. Blake,	Rochdale.	J. Henry Hill,	Worcester.
James F. Allen,	Worcester.	James Draper,	"
Henry Woodward,	"	F. M. Marble,	"
William T. Merrifield,	"	William W. Cook,	"
William H. Earle,	"	Calvin L. Hartshorn,	"
H. M. Quimby,	"	Joseph Lovell,	"
Samuel Flagg,	"	Frederic G. Stiles,	"
Frank J. Kinney,	"	Edwin Morse,	"
John C. Newton,	"	Hermann F. A. Lange,	"
Emory Banister,	"	John Midgley,	"
John D. Lovell,	"	S. H. Record,	"
George F. Hoar,	"	Adin A. Hixon,	"
George Calvin Rice,	"	Simon E. Fisher,	"
O. B. Hadwen,	"	John L. Peters,	"
William Eames,	"	Mrs. Daniel Tainter,	"
Sylvanus Sears,	"	Mrs. John H. Coes,	"
Henry Phelps,	"	Mrs. T. L. Nelson,	"
Thomas A. Dawson,	"	Mrs. Adin A. Hixon,	"
Charles Greenwood,	"	Mrs. Thomas Ward,	"
Newell Wood,	Millbury.		

STANDING COMMITTEES.

ON FINANCE:

Edward W. Lincoln, 1888. Nathaniel Paine, 1889. George E. Francis, 1890.

ON LIBRARY AND PUBLICATION:

Edward W. Lincoln. Charles E. Brooks. George E. Francis.

ON NOMENCLATURE:

James F. Allen, George E. Francis, Hermann F. A. Lange, O. B. Hadwen, James Draper, F. M. Marble, Charles Greenwood.

ON ARRANGEMENTS AND EXHIBITIONS:

James Draper, *Chairman*,
Newell Wood, William W. Cook, Charles E. Parker, William H. Earle, Charles E. Brooks, Calvin L. Hartshorn, Hermann F. A. Lange, O. B. Hadwen, Adin A. Hixon, Charles Greenwood, F. M. Marble, O. B. Wyman, H. B. Watts, J. L. Peters, George C. Rice, with *President* Dewey, and *Secretary* Lincoln.

AUDITORS.

Emory Banister, Henry L. Parker.

JUDGES.

ON FLOWERS, PLANTS, ETC.
Adin A. Hixon.

ON FRUITS, ETC.
James Draper.

ON VEGETABLES, ETC.
Charles Greenwood.

SCHEDULE OF PREMIUMS

OFFERED BY THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY,

FOR THE YEAR

1887.

The attention of Exhibitors is particularly called to the Rules and Regulations, General and Special.

Worcester, Mass.
CHARLES HAMILTON, PRINTER,
311 MAIN STREET.
1887.

COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS.

James Draper, *Chairman.*

Calvin L. Hartshorn,
Hermann F. A. Lange,
Newell Wood,
W. W. Cook,
O. B. Hadwen,
F. M. Marble,
O. B. Wyman,
Charles E. Parker,
William H. Earle,
Charles E. Brooks,
Adin A. Hixon,
Charles Greenwood,
H. B. Watts,
J. L. Peters,
George C. Rice.

President, - - Francis H. Dewey.

Secretary, Edward W. Lincoln,
Nos. 5 Oak and 18 Front Sts.

JUDGES OF AWARD.

Flowers, Plants, Etc.—Adin A. Hixon.
Fruits, Etc.—James Draper.
Vegetables, Etc.—Charles Greenwood.

COMMITTEE ON NOMENCLATURE.

James F. Allen,
Hermann F. A. Lange,
George E. Francis,
O. B. Hadwen,
James Draper,
Charles Greenwood,
F. M. Marble.

GENERAL RULES FOR ALL EXHIBITIONS.

A. Strict conformity to the Regulations and Rules will be expected and required, as well for the benefit of Exhibitors as for the convenience of the Officers of the Society.

B. Correct and legible names must be attached to each and every Flower or Plant entered in a class of named varieties.

C. All articles offered for premium must remain within the Hall throughout the hours of Exhibition, unless special permission for their removal shall be granted by the Committee on Exhibitions, etc.

D. All *Small Fruits* must be entered in boxes or baskets (except in the case of Strawberries and Currants, which are to be shown "*flat*"); but they may be displayed subsequently in plates or dishes, at the taste of the exhibitor.

E. No person can compete for more than one premium with the same variety of Flower or Fruit; nor can any person take more than one premium under the same number.

F. The Judges may correct, before the close of any Exhibition, awards made by them, if satisfied that such were erroneous.

G. The cards of competitors shall be put, reversed, beneath the plates; and the Judges of Award shall be excluded from the Hall of Exhibition until the Exhibition itself is ready for judgment.

H. Competitors are expected to conform strictly to the conditions under which articles are invited. Evasion or violation of them may be reported to the TRUSTEES for future disqualification of the offender.

RULES AND REGULATIONS.

1. Exhibitions will be held on March 17 and April 14. Commencing May 5th, there will be Exhibitions every Thursday afternoon until and including October 27th, A. D. 1887. The hours of exhibition will be between 3 and 4.30 o'clock. Articles

offered for premium must be in the Hall by 2.15 o'clock P. M. of the days of exhibition. Between 2.15 and 3 o'clock the Hall will be in exclusive charge of the Secretary, and the Librarian, who will allow no one else to be present. The Judges of Award may be admitted under the limitations of GENERAL RULE G.

2. Competition for premiums is open to all; but a discount of one-third of the amount will be made from awards to persons who are not members of the Society; and it is strictly required that all specimens offered for premium shall have been grown by the competitors, on their own premises, *within the County of Worcester*, for a period of at least one (1) month previous to the date of exhibition.

3. After the articles are arranged they will be under the exclusive charge of the Judges, and *not even the owners* will have liberty to *remove* them until the exhibition is closed; when they will be delivered as the contributors may direct.

4. No cards of a business nature will be allowed in any Exhibition.

5. Where a certain number or quantity of Plants, Flowers, Fruits or Vegetables is designated in the schedule, there must be neither more nor less than that number or quantity of specimens shown; and in no case can any other varieties than those named in the schedule be substituted.

6. It will be the duty of the Judges to *exclude from competition all inferior specimens.* Also, all such *Designs* as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making Awards, will especially regard uniformity in size, symmetry of form, and beauty in color.

7. The Committee of Arrangements have power to change the time of exhibition for any article, if an earlier or later season renders such change necessary; and the Secretary is requested to give notice of one week, in some daily paper, and also at the preceding Exhibition, when a change in the Schedule is proposed.

8. All articles offered for premiums must be correctly named. Indefinite appellations, such as "Pippin," "Sweeting," "Green-

ing," etc., will not be considered as names. Any person exhibiting the same variety of Fruit or Vegetables, under different names, or exhibiting as grown by himself, Flowers, Fruit, or Vegetables grown by another, thereby violating the objects and rules of the Society, shall be debarred from competing for the Society's premiums until reinstated.

9. No Flowers, Plants, Fruits or Vegetables will be entitled to a premium unless they possess points of superiority; and the Judges are *strictly required* to withhold premiums if, in their opinion, the articles exhibited do not merit them; nor shall any specimen for which a premium has been once awarded, receive another during the season.

10. Competitors will be required to furnish information as to their mode of cultivation, and to present specimens, for trial and examination, if requested.

11. In all exhibitions of Cut Flowers, the use of foliage must be restricted to that of the varieties shown; and not more than three blooms, clusters or spikes, all which shall be of one color, and of one variety, shall be allowed in the same bottle, except when otherwise specified in the schedule.

12. No Judge shall award a premium or gratuity in any case wherein he is a competitor, or has an actual or resultant interest; in any such case the judgment shall be rendered by any three of the Committee on Arrangements and Exhibitions whom the Judge shall invite.

13. No Judge shall require anything of competitors respecting their exhibits, which is not distinctly specified in the schedule. No Flowers, Fruits, etc., etc., shall be put on the tables, for competition for premiums, by any person who is a judge as to the awards to be made for Fruits, Flowers, etc., etc.

14. The standard number required for an exhibit, whether of Fruits or Vegetables, will be Twelve (12); unless otherwise specifically declared. The usual limit of measure, save for SMALL-FRUITS, will be a half-peck.

15. All premiums that are not claimed within three months after the close of the official year shall be forfeited to the Society.

16. The awards will be made known as soon as the cards can be filled out and placed upon the tables.

17. "Downing's Fruits of America," revised edition, will guide the Judge of Fruits in his decisions upon matters at issue.

☞The Judges are authorized by the Trustees, to invite the assistance of competent and discreet persons in the discharge of their duties.

FLOWERS, PLANTS, FRUITS & VEGETABLES.

A. D. 1887.

☞ The Committee on Arrangements and Exhibitions would direct the earnest attention of the Judges to *Rule 6!*

6. *It will be the duty of the Judges to exclude from competition all inferior specimens. Also, all such designs as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making Awards, will especially regard uniformity in size, symmetry of form, and beauty in color.*

FLORAL. Special Rule—In all cases where dimensions are prescribed for exhibits, the measure shall be understood to be that of the flowers, solely; never admitting the basket, foliage, or any garniture of green.

Thursday, March 17.

☞ *The* Committee on Arrangements and Exhibitions *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

HYACINTH,—in bloom.—

No. 1.	Six plants, four premiums....	$3 00	2 00	1 00	50
No. 2.	One plant, two premiums....			1 00	50

PRIMULA SINENSIS,—in bloom.—

No. 3.	Four plants, four premiums..	$3 00	2 00	1 00	50
No. 4.	One plant, two premiums....			1 00	50

CINERARIA,—in bloom.—

No. 5.	Four plants, distinct in color, four premiums.....	$3 00	2 00	1 00	50

CYCLAMEN,—IN BLOOM.—

No. 6.	Four plants, four premiums..	$3 00	2 00	1 00	50
No. 7.	One plant, three premiums..		1 50	1 00	50

ARUM (RICHARDIA),—IN BLOOM.—

No. 8.	Best collection; grown in a pot, or tub, not exceeding 16 in. in diameter, four premiums.....	$3 00	2 00	1 00	50
No. 9.	One bloom, with foliage (the largest), two premiums.....			1 00	50

CUT FLOWERS.—

No. 10.	Twenty blooms or clusters, distinct, in vases, four premiums.....	$3 00	2 00	1 00	50

BOUQUET—(HAND).—

No. 11.	Not more than 9 in. in diameter, four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 12. Any variety, named, gratuity.

PEAR.—

No. 13. Any variety, named, gratuity.

VEGETABLE.—

CABBAGE,

No. 14.	Brunswick, 3 specimens, three premiums.....	$1 50	1 00		50
No. 15.	Savoy, 3 specimens, three premiums.....	$1 50	1 00		50
No. 16.	Red Dutch, 3 specimens, three premiums	$1 50	1 00		50

	CELERY,			
No. 17.	Six specimens, three premiums...	$1 50	1 00	50
	SQUASH,			
No. 18.	Marblehead, 3 specimens, three premiums.....	$1 50	1 00	50
No. 19.	Hubbard, 3 specimens, three premiums.....	1 50	1 00	50
	TURNIP,			
No. 20.	Swede, Yellow, 6 specimens, three premiums.....	$1 50	1 00	50
No. 21.	Swede, White, 6 specimens, three premiums.....	1 50	1 00	50
No. 22.	White Egg, 12 specimens, three premiums.....	1 50	1 00	50
	BEET,			
No. 23.	Turnip, three premiums.....	$1 50	1 00	50
	CARROT,			
No. 24.	Intermediate, three premiums ...	$1 50	1 00	50
	LETTUCE,			
No. 25.	Six heads, three premiums.....	$2 00	1 50	1 00

Thursday, April 14.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

SPECIAL SCHEDULE OF PREMIUMS FOR BULBS FLOWERING IN SPRING.—"The General Union of Holland for the Cultivation of Flower Roots" offers, through this Society,—

A. For 18 Hyacinths in pots, in at least 9 sorts, and not more than 2 pots of same sort,—

First premium.....1 Medal, Silver-Gilt.
Second premium.....1 Medal, Silver.
Third premium.....1 Medal, Bronze.

B. For 12 pots Single Early Tulips, 3 bulbs of one sort in each pot, in 12 sorts,—

First premium.....1 Medal, Silver.
Second premium.....1 Medal, Bronze.

C. For 10 pots Polyanthus Narcissus, 3 bulbs of one sort in each pot, in at least 5 sorts, and not more than 2 pots of each sort,—

First premium.....1 Medal, Silver.
Second premium.....1 Medal, Bronze.

CUT FLOWERS—BASKET.—

No. 26.	For the best round basket, on stand, not to exceed 15 inches in diameter, 4 premiums.....	$3 00	2 00	1 00	50

ZONALE GERANIUM,—IN BLOOM.—

No. 27.	Four plants, distinct in color, 4 premiums.....	$3 00	2 00	1 00	50

AZALEA INDICA,—IN BLOOM.—

No. 28.	Three plants, four premiums.....	$5 00	3 00	2 00	1 00
No. 29.	One plant, two premiums..			3 00	2 00

BEGONIA,—IN BLOOM.—

No. 30.	One plant, four premiums..	$3 00	2 00	1 00	50

CUT FLOWERS.—

No. 31.	Twenty vases, not to exceed 5 blooms or clusters in each, four premiums..	$3 00	2 00	1 00	50

HYACINTHS.—

No. 32.	Twelve pots, in not less than 6 varieties, three premiums.....	$4 00	3 00	2 00	

NARCISSUS,—DISPLAY.—

No. 33.	Three premiums	$4 00	3 00	2 00

TULIPS.—

No. 34.	Six pots, in not less than 3 varieties, three premiums	$4 00	3 00	2 00

APPLE.—

No. 35. Any variety, named, gratuity.

PEAR.—

No. 36. Any variety, named, gratuity.

VEGETABLE.—

	HORSE RADISH,			
No. 37.	Three premiums	$1 50	1 00	50
	PARSNEP,			
No. 38.	(Student), three premiums	1 50	1 00	50
No. 39.	(Hollow Crown), three premiums	1 50	1 00	50
	RADISH,			
No. 40.	Two bunches (6 in each bunch), three premiums	1 50	1 00	50
	SALSIFY,			
No. 41.	Three premiums	1 50	1 00	50
	LETTUCE,			
No. 42.	Six heads, four premiums	2 00	1 50	1 00	50
	RHUBARB,			
No. 43.	Same variety, three premiums	1 50	1 00	50
	DANDELION—(cultivated),			
No. 44.	One half-peck, three premiums	1 50	1 00	50
	SPINACH,			
No. 45.	One half-peck, three premiums	1 50	1 00	50

Thursday, May 5.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

PANSY,—NO DUPLICATES.—

No. 46.	One stand, one spike in a vial, four premiums.....	$3 00	2 00	1 00	50

—IN BLOOM.—

No. 47.	Six plants, distinct in color, exhibited in pots, four premiums.....	$3 00	2 00	1 00	50

BOUQUET,—HAND.—

No. 48.	Not to exceed 9 inches in diameter, four premiums.	$3 00	2 00	1 00	50

VEGETABLE.—

DANDELION,

No. 49.	Half-peck (cultivated), three premiums.....	$1 50	1 00		50

SPINACH,

No. 50.	Half-peck, three premiums.....	1 50	1 00		50

Thursday, May 12.

BASKET,—ON STAND.—

No. 51.	Not to exceed fifteen inches, oval, with handle, four premiums.....	$3 00	2 00	1 00	50

BULBS AND TUBERS—(HARDY)—OPEN CULTURE.—

No. 52.	Display, in vases, four premiums.....	$3 00	2 00	1 00	50

HYACINTH,—OPEN CULTURE.—

No. 53.	Display, in vases, four premiums	$3 00	2 00	1 00	50

VEGETABLE.—

ASPARAGUS,

No. 54.	Two bunches, three premiums	$1 50	1 00		50

Thursday, May 19.

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 55.	Stand, four premiums	$3 00	2 00	1 00	50

PELARGONIUM—(FANCY AND SHOW)—IN BLOOM.—

No. 56.	Four plants, of distinct varieties, four premiums	$3 00	2 00	1 00	50

TULIP,—OPEN CULTURE.—

No. 57.	Display, in vases, four premiums	$3 00	2 00	1 00	50

VEGETABLE.—

RHUBARB,

No. 58.	Linnæus, three premiums	$1 50	1 00		50
No. 59.	Victoria, three premiums	1 50	1 00		50

Thursday, May 26.

CUT FLOWERS—(FROM HARDY PLANTS AND SHRUBS).—

No. 60.	For the best display, in vases, open culture, four premiums	$3 00	2 00	1 00	50

AZALEA—(MOLLIS).—

No. 61.	For the best display, in vases, four premiums....	$3 00	2 00	1 00	50

VEGETABLE.—

RADISH,

No. 62.	Three premiums.....	$1 50	1 00		50

ONION (bunched),

No. 63.	Two bunches, six in each bunch, three premiums.....	$1 50	1 00		50

Thursday, June 2.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

FUCHSIA,—DISTINCT VARIETIES.—

No. 64.	Four plants in bloom, four premiums.....	$3 00	2 00	1 00	50

RHODODENDRON.—

No. 65.	Best display, in vases, four premiums	$3 00	2 00	1 00	50

AZALEA—GHENT.—

No. 66.	Best display, in vases, four premiums	$3 00	2 00	1 00	50

VEGETABLE.—

ASPARAGUS,

No. 67.	Two bunches, three premiums....	$1 50	1 00		50

CUCUMBER,

No. 68.	Three specimens, three premiums.	$1 50	1 00		50

Thursday, June 9.

CUT FLOWERS.—DISTINCT.—

No. 69.	ONE STAND—(the varieties of any species must not exceed three), four premiums	$3 00	2 00	1 00	50
No. 70.	ONE VASE,—the specimens not to be tied or wired, three premiums		2 00	1 00	50

IRIS.—

No. 71.	Display, in vases, four premiums	$3 00	2 00	1 00	50

VEGETABLE.—

SPINACH,

No. 72.	Half-peck, three premiums	$1 50	1 00		50

Thursday, June 16.

ROSES.—

[TO BE SHOWN IN THE BOXES OR VASES OF THE SOCIETY.]

No. 73.	For the best 12 blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums	$4 00	3 00	2 00	1 00
No. 74.	For the best 6 blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums	3 00	2 00	1 00	50
No. 75.	For the best stand of Roses, four premiums	3 00	2 00	1 00	50
No. 76.	MOSS ROSES. Best display, four premiums	3 00	2 00	1 00	50
No. 77.	For the best basket or dish of Roses, three premiums.		2 00	1 00	50

STRAWBERRY.—

No. 78. Any variety, gratuity.

VEGETABLE.—

PEA,

No. 79.	One half-peck, four premiums	$2 00	1 50	1 00	50

LETTUCE,

No. 80.	Six heads, three premiums.		1 50	1 00	50

BEET,

No. 81.	Early, 12 specimens, three premiums		1 50	1 00	50

Thursday, June 23.

HYDRANGEA,—ONE PLANT, IN BLOOM.—

No. 82.	Hortensis, three premiums	$2 00		1 00	50
No. 83.	Otaksa, three premiums	2 00		1 00	50
No. 84.	Thomas Hogg, three premiums	2 00		1 00	50

BASKET.—Oval, flat, not to exceed 18 inches.

No. 85.	AMATEUR,—four premiums.	$3 00	2 00	1 00	50
No. 86.	FLORIST,—four premiums	3 00	2 00	1 00	50

BOUQUET—(PARLOR).—

No. 87.	AMATEUR,—four premiums.	$3 00	2 00	1 00	50
No. 88.	FLORIST,—four premiums	3 00	2 00	1 00	50

Digitalis. (FOXGLOVE).

No. 89.	Display, three premiums		$2 00	1 00	50

Campanula Media. (CANTERBURY BELL).

No. 90.	Display, three premiums		$2 00	1 00	50

PÆONIA.—

No. 91.	Display, in vases, four premiums	$3 00	2 00	1 00	50
No. 92.	*Dianthus Barbatus* (Sweet William), four premiums.	3 00	2 00	1 00	50

STRAWBERRY.—

No. 93.	Bidwell, 24 berries, flat, 3 premiums		$1 50	1 00	50
No. 94.	Charles Downing, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 95.	Crescent, 24 berries, flat, three premiums		1 50	1 00	50
No. 96.	Cumberland Triumph, 24 berries, flat, three premiums		1 50	1 00	50
No. 97.	Sharpless, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 98.	Wilson, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 99.	Any other variety, not scheduled, 24 berries, flat, gratuity.				

VEGETABLE.—

Pea,

No. 100.	Any variety named, one-half peck, three premiums	$2 00	1 50	1 00	

Thursday, June 30.

LILIUM.—

No. 101.	For the best display, in vases, four premiums	$3 00	2 00	1 00	50

CUT FLOWERS.—

No. 102.	For the best arranged stand, without restriction as to foliage, varieties, or quantity of flowers, four premiums	$3 00	2 00	1 00	50

HARDY FLOWERS.—Biennials and Perennials.—

No. 103.	Display in vases, four premiums	$3 00	2 00	1 00	50

STRAWBERRY.—

No. 104.	Bidwell, 24 berries, flat, four premiums	$2 00	1 50	1 00	50
No. 105.	Jersey Queen, 24 berries, flat, three premiums		1 50	1 00	50
No. 106.	Jucunda, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 107.	Manchester, 24 berries, flat, three premiums		1 50	1 00	50
No. 108.	Miner, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 109.	Monarch, 24 berries, three premiums		1 50	1 00	50
No. 110.	Triomphe de Gand, 24 berries, flat, three premiums		1 50	1 00	50
No. 111.	Any other variety not scheduled, 24 berries, flat, gratuity.				

VEGETABLE.—

Bean (Snap),

No. 112.	Green Pod, one-half peck, three premiums	$2 00	1 50	1 00	

Pea,

No. 113.	McLean's Advancer, one-half peck, three premiums	$2 00	1 50	1 00	

Beet,

No. 114.	Turnip-rooted, 12 specimens, three premiums	$1 50	1 00	50	

Thursday, July 7.

☞ *The* COMMMITEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals and act upon business properly submitted.*

ZONALE GERANIUM.—

No. 115.	For the best stand, 1 truss in a vial, four premiums.	$3 00	2 00	1 00	50

CUT FLOWERS.—(NAMED).—

No. 116.	Twenty vases, not to exceed 5 blooms or clusters in each, four premiums.	$3 00	2 00	1 00	50
No. 117.	LILIUM CANDIDUM, 12 spikes, four premiums..	3 00	2 00	1 00	50

RASPBERRY—(RED).—

No. 118.	Brandywine, one quart, three premiums.....	$1 50		1 00	50
No. 119.	Hansell, one quart, three premiums.....	1 50		1 00	50

RASPBERRY—BLACKCAP.—

No. 120.	Davison, one quart, two premiums.....			$1 00	50
No. 121.	Doolittle, one quart, two premiums.....			1 00	50
No. 122.	Souhegan, one quart, two premiums.....			1 00	50

CHERRY.—

No. 123.	Any variety, named, one quart, four premiums.....	$2 00	150	1 00	50

CURRANT.—

No. 124.	Red Dutch, 24 bunches, three premiums	$1 50		1 00	50

No. 125.	White Grape, 24 bunches, three premiums	1 50	1 00	50
No. 126.	White Dutch, 24 bunches, three premiums	1 50	1 00	50
No. 127.	Fay's Prolific, 24 bunches, three premiums	1 50	1 00	50

STRAWBERRY.—

No. 128. Any variety, 24 berries, flat, gratuity.

VEGETABLE.—

PEA,

No. 129.	Yorkshire Hero, three premiums	$2 00	1 50	1 00
No. 130.	Champion of England, three premiums	2 00	1 50	1 00

No. 131. Any other variety, not scheduled, gratuity.

CABBAGE,

No. 132. Three specimens, gratuity.

Thursday, July 14.

GLOXINIA,—IN POTS.—

No. 133.	Six varieties in bloom, four premiums	$3 00	2 00	1 00	50

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 134.	Stand, four premiums	$3 00	2 00	1 00	50

HOLLYHOCK.—DOUBLE.—

No. 135.	For the best 20 blooms, in vases, four premiums	$3 00	2 00	1 00	50

IRIS KÆMPFERI.—

No. 136.	Display in vases, four premiums	$3 00	2 00	1 00	50

CURRANT.—

No. 137.	Fay's Prolific, 24 bunches, two premiums.....			$1 00	50
No. 138.	La Versaillaise, 24 bunches, four premiums.....	2 00	1 50	1 00	50
No. 139.	Red Dutch, 24 bunches, four premiums.....	2 00	1 50	1 00	50
No. 140.	White Dutch, 24 bunches, three premiums		1 50	1 00	50
No. 141.	White Grape, 24 bunches, two premiums.....			1 00	50
No. 142.	Any other variety, not scheduled, gratuity.				

RASPBERRY.—

No. 143.	Brincklé's Orange, one quart, three premiums.....	$1 50	1 00		50
No. 144.	Cuthbert, one quart, three premiums.....	1 50		1 00	50
No. 145.	Hornét, one quart, three premiums.....	1 50	1 00		50
No. 146.	Hudson River Antwerp, one quart, three premiums.....	1 50	1 00		50
No. 147.	Northumberland, one quart, three premiums.....	1 50	1 00		50
No. 148.	Turner, one quart, three premiums.....	1 50	1 00		50
No. 149.	Any other variety, not scheduled, gratuity.				

BLACKCAP,

No. 150.	Gregg, one quart, two premiums.		1 00		50
No. 151.	Mammoth Cluster, one quart, two premiums.....		1 00		50

VEGETABLE.—

POTATO,

No. 152.	Any named variety, 12 specimens, three premiums.....	$2 00	1 50	1 00	

BEAN,

No. 153.	Wax—(snap), three premiums...	2 00	1 50	1 00	

Thursday, July 21.

FLOWERS,—SEEDLINGS OF 1887.

No. 154.	Stand, four premiums....	$3 00	2 00	1 00	50

BASKET.—Round, flat, not to exceed 18 in. in diameter.

No. 155.	AMATEUR—four premiums.	$3 00	2 00	1 00	50
No. 156.	FLORIST,—four premiums.	3 00	2 00	1 00	50

PETUNIA.—One spray in each vial.

No. 157.	Stand, four premiums....	$3 00	2 00	1 00	50

SWEET PEA.—*Best Varieties.*

No. 158.	Stand,—not exceeding 12 stems in a bottle, four premiums....	$3 00	2 00	1 00	50

RASPBERRY.—

No. 159. Any variety, one quart, gratuity.

BLACKBERRY.—

No. 160.	Agawam, one quart, two premiums			$1 00	50
No. 161.	Early Harvest, one quart, two premiums			1 00	50

VEGETABLE.—

CABBAGE,

No. 162.	Brunswick, three specimens, three premiums.....	$1 50	1 00		50
No. 163.	Henderson, three premiums....	1 50	1 00		50

CORN,

No. 164.	(Sweet), any named variety, three premiums.....	$2 00	1 50	1 00	

SQUASH,

No. 165.	Three Summer Crookneck, two premiums	$1 00		50
No. 166.	Three Scallop, two premiums	1 00		50

TOMATO,

No. 167.	Any named variety, three premiums	$2 00	1 50	1 00

Thursday, July 28.

CUT FLOWERS,—GROWN FROM SEED. *By Exhibitor.*

No. 168.	Stand of distinct varieties, four premiums	$3 00	2 00	1 00	50

BOUQUET,—PARLOR.—Not to exceed 15 in. from base to tip.

No. 169.	AMATEUR,—four premiums	$3 00	2 00	1 00	50
No. 170.	FLORIST,—four premiums	3 00	2 00	1 00	50

PHLOX DRUMMONDI.—

No. 171.	Stand of best varieties, four premiums	$3 00	2 00	1 00	50

VERBENA,—BEST VARIETIES.—

No. 172.	Stand, one truss in a vial, four premiums	$3 00	2 00	1 00	50

PEAR.—

No. 173.	D'Eté, three premiums	$1 50		1 00	50

GOOSEBERRY.—

No. 174. One quart of any named variety, gratuity.

BLACKBERRY.—

No. 175.	Kittatinny, one quart, two premiums		$1 00	50
No. 176.	Snyder, one quart, two premiums.		1 00	50
No. 177.	Wachuset, one quart, two premiums		1 00	50
No. 178.	Any other variety, not scheduled, gratuity.			

VEGETABLE.—

BEAN,

No. 179.	Dwarf Horticultural (shell), half-peck, three premiums	$1 50	1 00	50
No. 180.	Any other (named) variety, three premiums	1 50	1 00	50

CORN,

No. 181.	(Sweet), three premiums	1 50	1 00	50

POTATO,—12 specimens.

No. 182.	Hebron, three premiums	1 50	1 00	50
No. 183.	Maine, three premiums	1 50	1 00	50
No. 184.	Pearl of Savoy, three premiums.	1 50	1 00	50
No. 185.	Potentate, three premiums	1 50	1 00	50
No. 186.	Rose, three premiums	1 50	1 00	50
No. 187.	Sunrise, three premiums	1 50	1 00	50

Thursday, August 4.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

HOLLYHOCK.—

No. 188.	For the best display, a single spike in a vase (no duplicates), five premiums	$4 00	3 00	2 00	1 00	50

CUT FLOWERS,—DISTINCT VARIETIES, NAMED.—

No. 189.	Twenty blooms, or clusters, in vases, four premiums	$3 00	2 00	1 00	50

GLADIOLUS.—

No. 190.	Twenty vases, one spike each, four premiums	$3 00	2 00	1 00	50

CLEMATIS.—

No. 191.	Display of not less than six named varieties, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 192. Any variety, gratuity.

PEAR.—

No. 193. Any variety, not scheduled, gratuity.

VEGETABLE.—

	CORN,				
No. 194.	Crosby, two premiums			$1 50	1 00
	CUCUMBER,				
No. 195.	Three specimens, two premiums.			1 00	50
	TOMATO,				
No. 196.	Acme, three premiums		1 50	1 00	50

Thursday, August 11.

ANTIRRHINUM,—SNAP DRAGON.—

No. 197.	Stand, best varieties, four premiums	$3 00	2 00	1 00	50

GERMAN STOCKS,—BEST VARIETIES.—

No. 198.	Stand, four premiums...	$3 00	2 00	1 00	50

BEGONIA,—(TUBEROUS-ROOTED),—IN BLOOM.—

No. 199.	Best six plants, in pots, four premiums.....	$3 00	2 00	1 00	50

PINK—(ALL KINDS).—

No. 200.	Stand, four premiums...	$3 00	2 00	1 00	50

APPLE.—

No. 201.	Sweet Bough, three premiums.....		$1 50	1 00	50
No. 202.	Astrachan (Red), four premiums.....	2 00	1 50	1 00	50
No. 203.	Tetofsky, three premiums		1 50	1 00	50

PEAR.—

No. 204.	Giffard, four premiums..	$2 00	1 50	1 00	50

PEACH.—

No. 205. Any, gratuity.

VEGETABLE.—

BEAN (shell),

No. 206.	Concord, half-peck, in pods, three premiums.....		$1 50	1 00	50

TOMATO,

No. 207.	Livingston's Perfection, three premiums.....		1 50	1 00	50

Thursday, August 18.

ASTER.—

No. 208.	Rose, 20 vials, 3 blooms in each, three premiums...		$2 00	1 00	50
No. 209.	Hedgehog, 20 vials, 3 blooms in each, three premiums.....		2 00	1 00	50
No. 210.	Cocardeau (Crown), 20 vials, 3 blooms in each, three premiums.....		2 00	1 00	50
No. 211.	Victoria, 20 vials, 3 blooms in each, three premiums.		2 00	1 00	50
No. 212.	Boltzés, 20 vials, one whole plant in each, three premiums.....		2 00	1 00	50
No. 213.	Pompon, stand, one spray of not more than 6 blooms in each vial, four premiums	3 00	2 00	1 00	50
No. 214.	Truffaut,—Pæony-flowered, stand, 3 blooms in each vial, four premiums	3 00	2 00	1 00	50

GLADIOLUS—(distinct varieties.)—Named.

No. 215.	Twenty vases, 1 spike in each, four premiums...	$4 00	3 00	2 00	1 00

SALPIGLOSSIS.—

No. 216.	For the best stand, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 217.	Oldenburg, four premiums.....	$2 00	1 50	1 00	50

APRICOT.—

No. 218.	Any variety, gratuity.....			$1 00	50

PEAR.—

No. 219.	Clapp, five premiums	$3 00	2 00	1 50	1 00	50

PEACH.—

No. 220.	Alexander, three premiums	$1 50		1 00	50
No. 221.	Beatrice, three premiums	1 50		1 00	50
No. 222.	Cole's Early Red, two premiums			1 00	50

VEGETABLE.—

SQUASH,

No. 223.	Marrow, 3 specimens, three premiums	$1 50		1 00	50
No. 224.	Turban, 3 specimens, three premiums	2 00		1 50	1 00

TOMATO,

No. 225.	Paragon, three premiums	1 50		1 00	50

CORN,

No. 226.	(Sweet), 12 ears, of not less than 12 rows, three premiums	1 50		1 00	50

Thursday, August 25.

CUT FLOWERS.—

No. 227.	Stand, four premiums	$3 00	2 00	1 00	50

DELPHINIUM.—

No. 228.	Stand, best varieties, four premiums	$3 00	2 00	1 00	50

GERANIUM.—

No. 229.	Stand, one truss in each vial, four premiums	$3 00	2 00	1 00	50

GLADIOLUS—(NO DUPLICATES).

No. 230.	Twenty vases, one spike in each, four premiums	$3 00	2 00	1 00	50

PHLOX—PERENNIAL.—

No. 231.	Display in vases, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 232.	Somerset, three premiums		$1 50	1 00	50
No. 233.	Williams, four premiums	2 00	1 50	1 00	50

PEAR.—

No. 234.	Rostiezer, three premiums		$1 50	1 00	50
No. 235.	Tyson, three premiums		1 50	1 00	50

PEACH.—

No. 236.	Hale, three premiums		$1 50	1 00	50
No. 237.	Rivers, three premiums		1 50	1 00	50

PLUM.—

No. 238.	Bradshaw, three premiums		$1 50	1 00	50
No. 239.	McLaughlin, three premiums		1 50	1 00	50

VEGETABLE.—

BEAN—(HALF-PECK, IN POD.)—

No. 240.	Horticultural (pole), three premiums		$1 50	1 00	50
No. 241.	Goddard, three premiums		1 50	1 00	50

Thursday, September 1.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

SCABIOSA.—

No. 242.	Stand, not exceeding six flowers in a vial, best variety, four premiums.	$3 00	2 00	1 00	50

ZINNIA.—

No. 243.	Stand, at least twelve varieties, one flower in a vial, four premiums....	$3 00	2 00	1 00	50

LILIUM SPECIOSUM.—

No. 244.	Best display, in vases, four premiums.....	$3 00	2 00	1 00	50

MARIGOLD.—

No. 245.	Stand, four premiums....	$3 00	2 00	1 00	50

APPLE.—

No. 246.	Foundling, two premiums.....			$1 00	50

APPLE—(CRAB).—

No. 247.	Transcendent, 24 specimens, three premiums.....		1 50	1 00	50

NECTARINE.—

No. 248.	Any variety, two premiums.....			$1 00	50

PEAR.—

No. 249.	Assomption, three premiums....	$1 50		1 00	50
No. 250.	Petite Marguerite, three premiums.....		1 50	1 00	50

PEACH.—

No. 251.	Cooledge, two premiums.....		$1 00	50
No. 252.	George Fourth, two premiums...		1 00	50
No. 253.	Foster, two premiums.....		1 00	50
No. 254.	Richmond, two premiums.....		1 00	50

PLUM.—

No. 255.	Imperial Gage, three premiums.	$1 50	1 00	50
No. 256.	Washington, three premiums..	1 50	1 00	50
No. 257.	Gen. Hand, three premiums...	1 50	1 00	50
No. 258.	Victoria, three premiums.....	1 50	1 00	50

Thursday, September 8.

CUT FLOWERS.—

No. 259.	Stand, four premiums...	$3 00	2 00	1 00	50

BOUQUET—(PARLOR).—

Best, loosely arranged.

No. 260.	Amateur,—four premiums.....	$3 00	2 00	1 00	50
No. 261.	Florist,—four premiums	3 00	2 00	1 00	50

DAHLIA.—

Large-Flowered,

No. 262.	Twenty vases, one spray in each, four premiums..	$3 00	2 00	1 00	50

Pompon,

No. 263.	Twenty vases, one spray in each, four premiums.	3 00	2 00	1 00	50

Single,

No. 264.	Twenty vases, one spray in each, three premiums		1 50	1 00	50

NASTURTIUM AND TROPÆOLUM.—

No. 265.	Stand, best varieties, not more than twelve blooms in each bottle, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 266.	Worcester Spy, three premiums.	$1 50		1 00	50
No. 267.	Any other variety, not scheduled, gratuity.				

PEAR.—

No. 268.	Ansault, three premiums	$1 50		1 00	50
No. 269.	Earle's Bergamot, three premiums		1 50	1 00	50
No. 270.	St. Ghislain, four premiums	2 00	1 50	1 00	50

PEACH.—

No. 271.	Crawford (Early), two premiums.			$1 00	50
No. 272.	Oldmixon, two premiums			1 00	50

PLUM.—

No. 273.	Jefferson, three premiums	$1 50		1 00	50
No. 274.	Lombard, three premiums		1 50	1 00	50
No. 275.	Munroe, three premiums		1 50	1 00	50
No. 276.	Quackenboss, three premiums		1 50	1 00	50

VEGETABLE.—

CUCUMBER,

No. 277.	Half-peck (for pickles), three premiums	$1 50		1 00	50

BEAN,

No. 278.	LIMA (large), half-peck, three premiums		1 50	1 00	50

PEPPER.—12 specimens.

No. 279.	Squash, two premiums.....	$1 00	50
No. 280.	Large Bell, two premiums.....	1 00	50
No. 281.	Mammoth, two premiums.....	1 00	50

Thursday, September 15.

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 282.	Twenty vases, one bloom or cluster in each, four premiums.....	$3 00	2 00	1 00	50

GERANIUM,—OPEN CULTURE.—One truss in a vial.—

No. 283.	Stand, four premiums...	$3 00	2 00	1 00	50

PANSY,—WITH FOLIAGE.—

No. 284.	Stand, one spike in each bottle, four premiums..	$3 00	2 00	1 00	50

CUT FLOWERS.—

No. 285.	Table Design, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 286.	Golden Sweet, three premiums.	$1 50	1 00		50
No. 287.	Garden Royal, three premiums.	1 50	1 00		50

PEAR.—

No. 288.	Bartlett, five premiums.....	$3 00	2 00	1 50	1 00	50
No. 289.	Lucrative, three premiums.....		1 50	1 00	50
No. 290.	Pratt, three premiums		1 50	1 00	50

PLUM.—

No. 291.	Coe's Golden Drop, three premiums	$1 50	1 00	50
No. 292.	Reine Claude de Bavay, three premiums	1 50	1 00	50

PEACH.—

No. 293.	Crawford (Early), two premiums		$1 00	50
No. 294.	Oldmixon, two premiums		1 00	50

GRAPE,—GROWN UNDER GLASS.—

No. 295.	Three clusters, three premiums	$3 00	2 00	1 00

MELON.—

No. 296.	Yellow Flesh, three specimens, two premiums		$1 00	50
No. 297.	Green Flesh, three specimens, two premiums		1 00	50

WATER,

No. 298.	Two specimens, two premiums		1 00	50

VEGETABLE.—

CABBAGE,

No. 299.	Brunswick, 3 specimens, three premiums	$1 50	1 00	50

Thursday, September 22.

ASTER.—

No. 300.	Display, in vases, four premiums	$3 00	2 00	1 00	50

CUT FLOWERS—(Basket).—

Not to exceed fifteen inches, oval, with handle, on stand.

No. 301.	Amateur, four premiums	$3 00	2 00	1 00	50
No. 302.	Florist, four premiums	3 00	2 00	1 00	50

VERBENA.—

No. 303.	Stand, four premiums...	$3 00	2 00	1 00	50

CUT FLOWERS.—Stand.—

No. 304.	Four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 305.	American Beauty, three premiums.....	$1 50		1 00	50
No. 306.	Porter, three premiums.....	1 50		1 00	50

APPLE—Crab.—

No. 307.	Hyslop, 24, two premiums.....			$1 00	50

PEAR.—

No. 308.	Durandeau, three premiums....	$1 50		1 00	50
No. 309.	Paradis d'Automne, four premiums.....	2 00	1 50	1 00	50
No. 310.	Any other variety, not scheduled, gratuity.				

PEACH.—

No. 311.	Crawford (Late), two premiums			$1 00	50
No. 312.	Stump the World, two premiums			1 00	50
No. 313.	Any other variety, not scheduled, gratuity.				
No. 314.	New Seedling, originated in Worcester County, three premiums.....	1 50		1 00	50

GRAPE.—

No. 315.	Brighton, three clusters, three premiums	$1 50	1 00	50
No. 316.	Iona, three clusters, three premiums	1 50	1 00	50
No. 317.	Lady, three clusters, three premiums	1 50	1 00	50
No. 318.	Lindley, three premiums	1 50	1 00	50
No. 319.	Massasoit, three clusters, three premiums	1 50	1 00	50
No. 320.	Moore, three clusters, three premiums	1 50	1 00	50
No. 321.	Prentiss, three clusters, three premiums	1 50	1 00	50
No. 322.	Salem, three clusters, three premiums	1 50	1 00	50
No. 323.	Wilder, three clusters, three premiums	1 50	1 00	50
No. 324.	Worden, three clusters, three premiums	1 50	1 00	50

VEGETABLE.—

CARROT,

No. 325.	Any variety, three premiums	$1 50	1 00	50

EGG PLANT,

No. 326.	Three specimens, three premiums	2 00	1 50	1 00

CABBAGE,

No. 327.	Red, three specimens, three premiums	1 50	1 00	50
No. 328.	Savoy, three specimens, three premiums	1 50	1 00	50

CAULIFLOWER,

No. 329.	Three specimens, four premiums	2 00	1 50	1 00	50

Thursday, September 29.

CUT FLOWERS—(Basket.)—

Not to exceed fifteen in. in diameter, flat, oval.

No. 330.	Amateur, — four premiums	$3 00	2 00	1 00	50
No. 331.	Florist,—four premiums	3 00	2 00	1 00	50

CUT FLOWERS—(Stand).—

No. 333.	Four premiums	$3 00	2 00	1 00	50

GLADIOLUS.—

No. 334.	Best display, in vases, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 335.	Gravenstein, 5 premiums	3 00	2 00	$1 50	1 00	50
No. 336.	Holden, three premiums			1 50	1 00	50
No. 337.	Lyscom, three premiums			1 50	1 00	50
No. 338.	McLellan, three premiums			1 50	1 00	50
No. 339.	Mother, three premiums			1 50	1 00	50
No. 340.	Twenty Ounce, three premiums			1 50	1 00	50

PEAR.—

No. 341.	Buffum, two premiums				$1 00	50
No. 342.	Hardy, three premiums			1 50	1 00	50
No. 343.	Louise Bonne de Jersey, 5 premiums	3 00	2 00	1 50	1 00	50
No. 344.	Seckel, five premiums	3 00	2 00	1 50	1 00	50
No. 345.	St. Michel Archange, two premiums				1 00	50
No. 346.	Superfin, three premiums			1 50	1 00	50
No. 347.	Urbaniste, four premiums	2 00		1 50	1 00	50
No. 348.	Washington, three premiums			1 50	1 00	50

PEACH.—

No. 349. Any variety, gratuity.

GRAPE.—

No. 350.	Concord, three clusters, four premiums.....	$2 00	1 50	1 00	50
No. 351.	Delaware, four premiums.	2 00	1 50	1 00	50
No. 352.	Pocklington, two premiums.....			1 00	50
No. 353.	Niagara, two premiums.			1 00	50
No. 354.	Any other variety, not scheduled, gratuity.				

VEGETABLE.—

No. 355.	Collection, four premiums.....	$8 00	6 00	4 00	2 00

Thursday, October 6.

☞ *The* Committee on Arrangements and Exhibitions *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals and act upon business properly submitted.*

CUT FLOWERS.—

No. 356.	Stand, four premiums...	$3 00	2 00	1 00	50

FLOWERS.—

No. 357.	Table Design, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 358.	Ladies' Sweet, two premiums...			$1 00	50
No. 359.	Fameuse, three premiums.....		1 50	1 00	50
No. 360.	Coggswell, two premiums.....			1 00	50

No. 361.	Hubbardston, four premiums		2 00	1 50	1 00	50
No. 362.	Maiden's Blush, three premiums			1 50	1 00	50
No. 363.	Washington Strawberry, two premiums				1 00	50
No. 364.	Any other variety, not scheduled, gratuity.					

PEAR.—

No. 365.	Bosc, five premiums	$3 00	2 00	1 50	1 00	50
No. 366.	Dr. Reeder, three premiums			1 50	1 00	50
No. 367.	Sheldon, five premiums	3 00	2 00	1 50	1 00	50
No. 368.	Any other variety, not scheduled, gratuity.					

GRAPE,—OPEN CULTURE.—

No. 369.	Diana, three clusters, four premiums	$2 00		1 50	1 00	50
No. 370.	Any variety, three clusters, gratuity.					

QUINCE.—

No. 371.	Champion, three premiums			$1 50	1 00	50
No. 372.	Orange, four premiums		2 00	1 50	1 00	50

VEGETABLE.—

POTATO,

No. 373.	Six varieties (named), 12 specimens of each, four premiums	$3 00	2 00	1 50	1 00	

SQUASH,

No. 374.	Hubbard, three specimens, three premiums			1 50	1 00	50

No. 375.	Marblehead, three premiums...		1 50	1 00	50
No. 376.	Essex Hybrid, three premiums.		1 50	1 00	50
	CELERY,				
No. 377.	Six, three premiums.....		2 00	1 00	50

Thursday, October 13.

CUT FLOWERS.—(BOUQUET).—

No. 378.	Style, flat, mantle, not to exceed twelve inches from base to tip, four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 379.	Tompkins King, four premiums.....	$2 00	1 50	1 00	50
No. 380.	Leicester Sweet, three premiums.....		1 50	1 00	50
No. 381.	Belleflower, three premiums.....		1 50	1 00	50
No. 382.	Sutton Beauty, three premiums.....		1 50	1 00	50
No. 383.	Wealthy, two premiums.			1 00	50
No. 384.	Any other variety (named), not scheduled, gratuity.				

PEAR.—

No. 385.	Dix, three premiums.....	$1 50		1 00	50
No. 386.	Marie Louise, three premiums..	1 50		1 00	50
No. 387.	Onondaga, three premiums.....	1 50		1 00	50
No. 388.	Frederick Clapp, two premiums.			1 00	50

VEGETABLE.—

No. 389.	KOHL RABI, six specimens, three premiums.....	$1 50		1 00	50

ONION,

No. 390.	Red Globe—Half-peck, three premiums		1 50	1 00	50
No. 391.	Yellow Danvers — Half-peck, three premiums		1 50	1 00	50

SALSIFY,

No. 392.	Three premiums	$1 50		1 00	50

ENDIVE,

No. 393.	Six heads, three premiums		1 50	1 00	50

Thursday, October 20.

CUT FLOWERS.—

No. 394. In any form, gratuity.

APPLE.—

No. 395.	Tallman, three premiums		$1 50		1 00	50
No. 396.	Peck, three premiums		1 50		1 00	50
No. 397.	R. I. Greening, five premiums	3 00	2 00	1 50	1 00	50
No. 398.	Any other variety, not scheduled, gratuity.					

PEAR.—

No. 399.	Anjou, five premiums	$3 00	2 00	1 50	1 00	50
No. 400.	Diel, three premiums			1 50	1 00	50
No. 401.	Comice, five premiums	3 00	2 00	1 50	1 00	50
No. 402.	Mt. Vernon, two premiums				1 00	50

VEGETABLE.—

No. 403. Novelties, gratuity.

Thursday, October 27.

FERN—(PARLOR).—

No. 404.	Best plant, three premiums....	$2 00	1 00		50

PALM—(PARLOR).—

No. 405.	Best plant, three premiums....	$2 00	1 00		50

POT PLANTS—IN BLOOM.—

No. 406. Gratuity.

FOLIAGE PLANTS.—

No. 407. Gratuity.

APPLE.—

No. 408.	Baldwin, six premiums	$4 00	3 00	2 00	1 50	1 00	50
No. 409.	Canada Red (Old Nonesuch), three premiums.....				1 50	1 00	50
No. 410.	Northern Spy, five premiums		3 00	2 00	1 50	1 00	50
No. 411.	Roxbury Russet, four premiums			2 00	1 50	1 00	50
No. 412.	Golden Russet of Mass., three premiums.....				1 50	1 00	50
No. 413.	Golden Russet, Sweet, two premiums.....					1 00	50
No. 414.	Golden Russet, three premiums.				1 50	1 00	50
No. 415.	Red Russet, three premiums....				1 50	1 00	50
No. 416.	Palmer, two premiums.....					1 00	50
No. 417.	Lemon Greening, two premiums					1 00	50

PEAR.—

No. 418.	Clairgeau, three premiums.....	$1 50	1 00		50
No. 419.	Langelier, three premiums....	1 50	1 00		50
No. 420.	Dana's Hovey, three premiums.	1 50	1 00		50
No. 421.	Angoulême, four premiums.....	2 00	1 50	1 00	50

No. 422.	Glou Morçeau, three premiums.			1 50	1 00	50
No. 423.	Josephine de Malines, three premiums			1 50	1 00	50
No. 424.	Lawrence, five premiums	3 00	2 00	1 50	1 00	50
No. 425.	Winter Nelis, four premiums	2 00	1 50	1 00		50

VEGETABLE.

Celeriac,

No. 426.	Six specimens, three premiums.			$1 50	1 00	50

Celery,

No. 427.	Four premiums	4 00	3 00	2 00	1 00	

CHRYSANTHEMUM.

FOURTH SPECIAL EXHIBITION

ON

Thursday, November 10th.

No. 1. For the best six Chinese, or large-flowered, in pots,—distinct named varieties, five premiums.....
$6 00 5 00 4 00 3 00 2 00

No. 2. For the best six Japanese, in pots, distinct named varieties, five premiums.....
$6 00 5 00 4 00 3 00 2 00

No. 3. For the best six Pompon, in pots, distinct named varieties, five premiums.....
$6 00 5 00 4 00 3 00 2 00

No. 4. For the best 3 plants, in pots, from Amateurs,—distinct (not named), four premiums.....
$3 00 2 00 1 50 1 00

No. 5. For the best display, in pots, any variety, four premiums.....
$8 00 6 00 4 00 2 00

No. 6. For Specimen Plant, of any variety, four premiums..
$4 00 3 00 2 00 1 00

No. 7. For twelve Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums....
$4 00 3 00 2 00

No. 8. For six Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums.....
$3 00 2 00 1 00

No. 9. For twelve Cut Blooms of Chinese, or large-flowered, named, with long stems and foliage, in vases, three premiums $4 00 3 00 2 00

No. 10. For six Cut Blooms of Chinese, or large-flowered, named, with long stems and foliage, in vases, three premiums $3 00 2 00 1 00

No. 11. For twenty-four sprays Chinese or Japanese, named, not less than twelve varieties, in vases, four premiums $5 00 4 00 3 00 2 00

No. 12. For twenty-four sprays Pompons, named, not less than twelve varieties, in vases, three premiums $3 00 2 00 1 00

The sum of Sixteen Dollars may be awarded in gratuities for meritorious exhibits.

☞ This Exhibition will be open to the public from 2 o'clock, P. M., until 10 o'clock, P. M. Solely to diminish the crowd that has rendered past similar Exhibitions so uncomfortable, at the same time defeating their object, ten cents will be charged for admission. Any sum, thus raised, will be applied to promote the culture and display of the Chrysanthemum.

N. B. All articles intended for this Special Exhibition, must be in the Hall, and ready for inspection by the Judge, by twelve o'clock, M., precisely, of the day of the Exhibition.

By authority of the

COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS.

Attest:

EDWARD WINSLOW LINCOLN,

Secretary.

OFFICERS AND COMMITTEES

OF THE

WORCESTER COUNTY HORTICULTURAL SOCIETY,

FOR THE YEAR 1886-7.

PRESIDENT:

FRANCIS H. DEWEY, of Worcester.

VICE PRESIDENTS:

STEPHEN SALISBURY, of Worcester; HENRY L. PARKER, of Worcester; GEORGE E. FRANCIS, of Worcester.

SECRETARY:

EDWARD WINSLOW LINCOLN, of Worcester.

LIBRARIAN AND TREASURER:

CHARLES E. BROOKS, of Worcester.

TRUSTEES (BY ELECTION):

Joseph C. Lovell, West Boylston.

O. B. Wyman,	Shrewsbury.	Newell Wood,	Millbury.
George Cruickshanks,	Fitchburg.	David L. Fiske,	Grafton.
Charles E. Parker,	Holden.	Henry B. Watts,	Leicester.
James F. Allen,	Worcester.	J. Henry Hill,	Worcester.
Henry Woodward,	"	James Draper,	"
William T. Merrifield,	"	F. M. Marble,	"
William H. Earle,	"	William W. Cook,	"
H. M. Quimby,	"	Calvin L. Hartshorn,	"
Samuel Flagg,	"	Joseph Lovell,	"
Horatio Phelps,	"	Frederic G. Stiles,	"
Frank J. Kinney,	"	Edwin Morse,	"
John C. Newton,	"	Hermann F. A. Lange,	"
Emory Banister,	"	John Midgley,	"
John D. Lovell,	"	S. H. Record,	"
George F. Hoar,	"	Adin A. Hixon,	"
George Calvin Rice,	"	Simon E. Fisher,	"
O. B. Hadwen,	"	John L. Peters,	"
William Eames,	"	Mrs. Daniel Tainter,	"
Sylvanus Sears,	"	Mrs. John H. Coes,	"
Henry Phelps,	"	Mrs. T. L. Nelson,	"
Thomas A. Dawson,	"	Mrs. Adin A. Hixon,	"
Charles Greenwood,	"	Mrs. Thomas Ward,	"

STANDING COMMITTEES.

ON FINANCE:

George E. Francis, 1887. Edward W. Lincoln, 1888. Nathaniel Paine, 1889.

ON LIBRARY AND PUBLICATION:

Edward W. Lincoln. Charles E. Brooks. George E. Francis.

ON NOMENCLATURE:

James F. Allen, George E. Francis, Hermann F. A. Lange, O. B. Hadwen, James Draper, F. M. Marble, Charles Greenwood.

ON ARRANGEMENTS AND EXHIBITIONS:

James Draper, *Chairman*,
Newell Wood, William W. Cook, Charles E. Parker, William H. Earle, Charles E. Brooks, Calvin L. Hartshorn, Hermann F. A. Lange, O. B. Hadwen, Adin A. Hixon, Charles Greenwood, F. M. Marble, O. B. Wyman, H. B. Watts, J. L. Peters, George C. Rice, with *President* Dewey, and *Secretary* Lincoln.

JUDGES.

ON FLOWERS, PLANTS, ETC.

Adin A. Hixon.

ON FRUITS, ETC.

James Draper.

ON VEGETABLES, ETC.

Charles Greenwood.

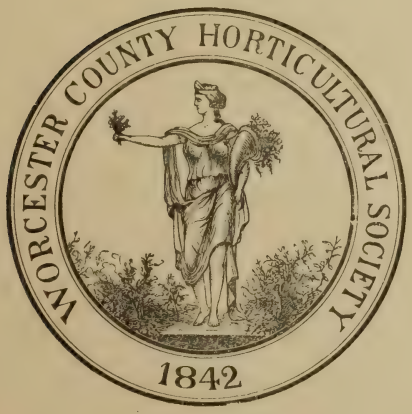
TRANSACTIONS

OF THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY,

FOR THE YEAR 1888.



Worcester, Mass.
CHARLES HAMILTON, PRINTER,
311 MAIN STREET.
1888.

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Died

In Worcester, December 16th, A. D. 1887, Francis Henshaw Dewey, aged 66 years, 5 months, 21 days.

In Memoriam.

At a meeting of the Trustees of the Worcester County Horticultural Society, specially convened on Monday, December 19th, in the Hall of Flora, the chair was taken by *First Vice-President* Stephen Salisbury, who addressed those present, as follows :

The Worcester County Horticultural Society has met with a great loss in the death of its President, Hon. Francis H. Dewey. One of the original members, a President of the Society at various times, in all covering a period of ten years; a lifelong friend of horticulture and a constant contributor to the exhibitions of the Society; Judge Dewey remained nearly alone of the early band of associates who gave the necessary impulse which has resulted in establishing this most useful enterprise upon its present sound and secure basis. All of us remember the active co-operation afforded when the Society was in its youth by each and every member; when it was felt to be a special and important duty to attend all meetings, to contribute specimens to all exhibitions and to write elaborate reports when connected with the various committees. Judge Dewey was among the most faithful from the first; and he brought to the Society a very considerable acquaintance with botany and a genuine love and knowledge of flowers and fruits, a

knowledge which he had not acquired by inspection alone, but from practical experience. But beyond the constant interest shown by Judge Dewey in our objects, his uniform urbanity and unfailing consideration for each and all of us, and the disposition he always manifested to unite conflicting interests, and to be just and fair under all circumstances, endeared him most closely to this Society, and will cause his memory to be preserved as one of its foremost promoters.

Vice-President Henry L. Parker next arose, saying :

This event has a special sadness and significance to us from the fact that it is the first instance in the history of the Society where a President has been removed by death, while still an incumbent of that office ; and also from the fact that up to within so short a period he was so actively interested in the Society's work. It seems but yesterday since we saw him an interested and delighted spectator at the Chrysanthemum display, the last exhibition of the year. Judge Dewey was one of our first citizens. No man among us was more universally loved and respected. No man has held more positions of influence and trust or filled them more acceptably. But this is not the place or the occasion to speak of his great abilities at the bar, upon the bench, as a financier, or to enter upon any general eulogy upon the many sterling virtues of his well-rounded life and character ; that will be done elsewhere and upon other occasions. We wish to remember him specially with reference to his connection with this Society. I have been asked to prepare some memorial to be placed upon our records, and I submit the following for your consideration :

The Worcester County Horticultural Society, through its Board of Trustees, desires to place upon its records

this memorial of the Hon. Francis H. Dewey, its late President and *ex-officio* president of this board.

Judge Dewey was one of the first incorporators of this society and a lifelong, active member. During the most, if not the entire, existence of the society, he was a member of its board of trustees.

For many years past at each annual meeting of the society he has been unaimously elected its presiding officer, and in that capacity has rendered most valuable service.

With all the cares of an extremely busy life and the pressing demands upon his time, he has rarely been absent from our meetings. Oftentimes they have been stormy sessions, when personal strife and the enmities engendered by a sharp competition waxed warm. On all these occasions he has presided with an unruffled temper ; his rulings were prompt and impartial, while his gentle, kindly bearing seldom failed to bring peace to the troubled waters.

He was a frequent contributor of fruit and flowers, with a special fondness for floriculture, and at the weekly displays of the society he was a constant visitor, showing a special interest in the floral collections, and with a genial smile and pleasant word for all whom he chanced to meet.

To an unusual degree did he possess the confidence and love of our members, and his sudden demise has all the force of a personal bereavement.

Trustee James Draper said that he was one of the youngest members of the Society and during the past four years has been a judge on fruits, etc. There had been times in this work when he needed instruction in order to fairly solve a problem

while in the discharge of his duty as judge at the exhibitions. He had found Hon. Francis H. Dewey his friend and helper at all times, and the lamented judge always kept an eye out for the minute details of the society's work. Mr. Draper made a motion that a committee of six, of whom the chair shall be one, be appointed to attend the funeral. Carried; and the chair appointed Messrs. Edward W. Lincoln, Henry L. Parker, Charles E. Brooks, O. B. Hadwen and Dr. George E. Francis.*

Secretary Edward Winslow Lincoln said that he could not let this occasion pass without paying a tribute of affection to the memory of his lifelong associate and cherished friend:

For the first time in the history of the Worcester County Horticultural Society are its members convened to mourn the loss of their President, dying in full possession of office.

Upon the third day of March, A. D. 1842, the signature of Governor John Davis was affixed to "An act to incorporate the Worcester County Horticultural Society." In the month of May thereafter, our lamented President took up his residence in this city; and from that time his name and fame became a legitimate part of our corporate and active history. On our roll of members the name of Francis H. Dewey appears seventh under his initial letter; and the inference is fair that he was among the foremost to appreciate the need of the new association and make it a reality.

When required, his best services were ever at our command. He acted upon committees of award with cheerfulness, though it is a species of drudgery from

* Mr. Draper had an imperative engagement out of town.

which many shrink. His legal experience was freely proffered in our behalf, and but recently became of avail to our exceeding benefit. His time was spared ungrudgingly, if his obligations as Trustee exacted. And of how fully, completely and gladly he officiated as President, there should be no occasion for recital to this audience. He had accepted election at your instance; thereafter for him nothing remained but the conscientious discharge of every duty appertaining to the office.

This Society has never lacked members whose skill in pomology had achieved a fame that far transcended the limits of the Commonwealth. President Dewey partook of their interest; yet his chief attention was engrossed by floriculture. In that his enthusiasm became almost feminine in its passion. How often have I watched his progress through our Hall when he supposed himself unnoticed, after his attention had been solicited to some particular specimen of fruit! With what certainty, if almost unconsciously, he would draw back to admire or criticise the Rose or Clematis from which he had been temporarily diverted!

The Rose, with its petals and fragrance long since faded to dust. The gracious presence awaits burial; but as spring revives, shall not the Rose renew its bud and bloom? From the analogy of nature we derive Hope, which may not be superfluous to those of ample Faith.

"And the evening and the morning were the first day." In the morning, upon that fairest of all December days, he was gathering the fruits of diligence whereof he had sown the seed. At noon I met him, and was literally astonished at the expression of his countenance. The light that shone there might well excite comment from adepts in psychology, in view of the subsequent fatality. His cordiality was marked;

and he playfully invited a comparison of ages, remarking his surprise when he found the tale slightly to his advantage. Possibly his memory was more tenacious than my own; recalling how we dwelt together under the same roof when we first essayed our respective families.

In the evening—and he was prone upon that bed wherefrom was to be no awakening this side of the celestial Eden. And in that goodly garden we horticulturists should be content to leave him, in the congenial fellowship of Wilder, Moore and Lovell, who preceded him but so recently.

On motion of George E. Francis, *V. P.*, it was unanimously voted that the proceedings be extended upon the records, and that a copy be engrossed and transmitted to the family of our deceased President.

At the Annual Meeting of the Worcester County Horticultural Society holden in the Hall of Flora on Wednesday, November 7th, A. D. 1888, *Secretary* Lincoln stated that he had received a letter which he would ask leave to read:

"WORCESTER, Nov. 6th, 1888.

"EDWARD W. LINCOLN, Esq.,

"*Secretary of the Worcester County Horticultural Society.*

"Dear Sir:

"We send you herewith a Portrait of the late Francis H. Dewey, in accordance with his expressed wish that the same should be presented to

the Worcester County Horticultural Society, of which he was so long the President, and in whose welfare he took so deep an interest.

"We also inclose the amount of the bequest made by him to the Society, in the following terms:—

"'I give to the Worcester County Horticultural Society the sum of One Thousand Dollars, the same to be invested and the income thereof to be applied to the purchase of books for its library.'

"Yours respectfully,

"FRANCIS H. DEWEY,
"JOHN C. DEWEY,
"GEORGE T. DEWEY,

"Executors of the will of Francis H. Dewey."

Mr. Lincoln added that it had occurred to him, upon receipt of the communication, that a recognition of it, however official, would acquire grace from being timely. He had therefore taken it upon himself to prepare some Resolutions that seemed to him appropriate and which he would submit for their acceptance :—

Resolved : By the Worcester County Horticultural Society, upon this first meeting since the decease of their late President, Francis Henshaw Dewey, that its members would place upon record their deep sense of the loss sustained by them, in common with the general interests of Horticulture throughout the County.

Resolved : That we adopt and reiterate as our own the expressions of mournful sensibility uttered by our Trustees at the very time of the sad event.

Resolved : That we recognize with especial gratitude the new evidence of his continuous interest in the Society, in the provision by himself of his portrait, to be suspended in our Hall in the goodly company of his life-long associates.

Resolved : That in accepting his generous bequest of a sum of money, we desire to show our thankfulness in the most appropriate way ; and that we therefore solemnly pledge the faith of the Society to "invest the same and to apply the income thereof to the purchase of books for our library."

Resolved : That a copy of these resolutions be transmitted to the family of our late President ; and that the resolutions, together with the record of the action and expressions of sentiment by the Trustees, at the time of his decease, be published in the next issue of the Transactions of the Society.

On motion of Salisbury, *V. P.*, *Voted :* to adopt the Resolutions, and furthermore to instruct the Finance Committee to keep the principal of the sum intact ; to expend only the income from it ; and that the bequest be known as the

Francis H. Dewey Fund.

A Record : Attest:

EDWARD WINSLOW LINCOLN,

Secretary.

WORCESTER COUNTY
HORTICULTURAL SOCIETY.

A. D. 1888.

ANNUAL REPORT OF THE SECRETARY.

To the Members of the

WORCESTER COUNTY HORTICULTURAL SOCIETY:

THE death of PRESIDENT DEWEY, occurring suddenly and when it did, precluded the possibility of calling the Society together to take appropriate action prior to his burial. There was barely time to convene the Trustees. The proceedings of that Board are extended at length upon its Records and were published in full by the contemporary press. Your cordial concurrence in their tenor and tone is not doubted. You are however advised of what your Trustees could not know, that the interest in this Society which was so consistently manifested throughout his whole life did not end with his mortal existence. The fund that he bequeathed for the increase of your Library will supply a lasting and visible memorial of his concern for your permanent, best welfare.

"As for man his days are as grass; as a flower of the field, so he flourisheth."

"For the wind passeth over it, and it is gone; and the place thereof shall know it no more."

But if we can never again lay eyes upon our late President; if the cheery recognition is missing, and the prompt decision fails; yet, thanks to the sympathy of those to whom he was nearest and dearest, his almost speaking likeness shall grace our walls so long as this Hall may endure. For so much let us be

duly thankful! For the rest, we may as well leave it with the inscrutable Providence that decrees and limits human existence.

Our Hall is in fair condition and has returned an average revenue during the past year. But members who wish a larger appropriation for premiums, at our Exhibitions must bear in mind that depreciation of improved real estate increases in proportion to its age, and that we have no right to expect an exception in our own case. The mastic upon our front wall has fallen off in patches; and, at best, presents but a shabby appearance. Located upon one of our most important streets, where all public processions must necessarily parade, neither our pecuniary interest nor the reputation of the Society, will suffer us to let Horticultural Hall waste into discredit. It now has a supreme recommendation in its convenient site, its facility of access from the street, and yet more in the entire immunity from danger, in the event of senseless panic. But others may attempt to rival, if they cannot hope to surpass, such signal advantages. And, therefore it is the decided conviction of your Committee on Finance, that every dollar which can be spared should go to constitute a Repairs-Fund, from which, in due time, may be defrayed the cost of such alterations and improvements as shall be found indispensable. The ordinary work of the Society would thus go on without interruption; while the saving annually, if small in itself, would in the long run, increase to a sum adequate for the specific purpose.

The taxes upon our stores, wherefrom are derived the means by which we "advance the Science and encourage and improve the 'Practice of Horticulture,'" are rapidly attaining the magnitude of former years. Our revenue from an investment in Real Estate is all that enables us to carry out the purposes for which we were chartered. It might be expedient when any alterations are found to be inevitable, to construct a pious gymnasium in the basement of our building, with a flying trapeze for devout development. If a holy retreat might be added, for which our attic would be well adapted, wherein to indulge in solemn meditation upon the conundrum, "Were There Mosquitoes in Eden?" condition and

theory would accord; the austere virtue of assessors relaxing and exact and equal justice, for once, being done.

Our Exhibitions were held, throughout the year, in substantial accordance with the Schedule. Occasionally an important display was deferred, to meet the imperative necessities of the case — notably thus in the matter of the annual Rose Show. No season is remembered by the veterans on your Committee of Arrangements, wherein an assignment by averages (if it may be so described?) was of such little worth. A flower or fruit was invited upon a specified day; since, for three years out of four one, if not both, had been in perfection at that time. It was of no sort of use, A. D. 1888; everything that grew to assurance of petal, or pulp being seized with a fit of procrastination, and putting in its appearance some two weeks after its appointed date. Long experience, however, had convinced your Committee of the futility of recasting the schedule to meet temporary exigencies; the attempt to do which usually results in making a bad matter worse.

The two opening Exhibitions, in March and April successively, were of signal excellence and greeted, as they deserved, by admiring throngs. The prospect for a display of Flowers, or aught else animate or inanimate, looked forlorn enough as that fearful blizzard was piling up its fathomless drifts. Nevertheless Holden and Leicester came on time, and Whitinsville (is not the 'ville' surplusage?) once more manifested, under difficulties, that interest to which this Society was ever deeply indebted. No such physical obstacles confronted us in April; and the Exhibition, for that month, was without drawback of any kind. But thereafter your *Secretary* feels that results justified his former contention. That there is not enough from which to achieve a creditable display, each week, commencing in the middle of May, as we did A. D. 1888. True,—artfully disposed, something may be effected with the refuse of parlor or conservatory; nor is it denied that parsneps can be exhumed that are well worth eating. But the truth is we are or ought to be planting at that particular juncture; and a Horticultural Society should be the last to require its members to gather where they have not strewn. There

is a time for all things; and the closest students of Nature are keen to learn and frank to confess that nothing is to be gained by an effort to hurry her moods.

The continuous, and now almost entire, withdrawal of Professional Florists from active coöperation in the work of our Society, has been a marked feature in the Horticultural season just closed. Whose is the loss and whose the gain! it might be impossible to apportion, precisely. It is certain that all honorable efforts have been exhausted to suit professionals, in our schedules; the framing of which, for years, has been largely entrusted to them. They have also been signally honored by the almost exclusive choice of judges from their ranks; — at the risk, not always nor wholly visionary, of having the floral awards determined upon lines almost strictly technical. Yet all has been of no permanent avail; one dropping off after another without so much as saying — by your leave? or even after making such an exceptional display as should depress the remaining members with a conviction of hopeless inferiority.

Your *Secretary* can advance nothing in adequate explanation. Should it be said that fault was found with the judgments of award, it may be replied that the time never was when the grumbler did not exist; and that those at least, whose own decisions had been unreasonably challenged, would not be so craven as to desert their successors — fellow-sufferers in injustice. Is it not more probable that the Professional Florist is gradually forced to recognize, what has been manifest to your *Secretary*, for long,— the absolute incompatibility between the highest success in his occupation and the attainment of equal prominence at Horticultural Exhibitions! His profession, and that comprises his entire plant,— is devoted primarily to the gain of a livelihood for himself, and family. Our Exhibitions aim at perfection. But he must make merchandise of his best specimens, if wanted, for shall not my lady have the nosegay upon which her fancy is set! Granted,— that he grows profusely,— by acres, if you please. Still, the more land under cultivation, in Floriculture particularly,— the less time can he call his own, if he would not salute insect-foes, weeds, or witch-grass, as his conceded masters.

In opposition to this view of the matter, may be adduced the very general display, by Professional Florists, at that grotesque horticultural *simulacrum*, offered annually, as a dissolving view, at the best paying point in New England. But this fact does not, of itself, adequately meet the contention. The Florist may have gone there upon the speculation that lures the country clergyman through the slums of New York. Ah! exclaimed Madame, la Marquise, clasping her hands pathetically, "*if they only knew how delicious is a little sin!*" But what must have been the surprise to those precisians who were wont to insist, in these Halls, that each flower must be judged by certain fixed rules of excellence, to find themselves adrift upon a shoreless sea where Vegetables floated in a special scow; Floriculture paddled a canoe of its own; and Horticulture, as expounded by wreckers to whom the saints never imparted their faith, shrivelled until it was reduced to a mere equivalent and synonym for Pomology! And yet this Society, — associate with MOORE and WILDER, as of RIPLEY and EARLE,— was urged to volunteer — *particeps criminis* — in such an outrage upon the fixed landmarks and established classification of an immemorial Science!

When this Society was organized, there were in Worcester, none other than amateur florists. They were found amply able to show all the flowers requisite for a first-class exhibition and a fair allowance of that human nature which appears to be inseparable from such occasions. And they were shown by those zealous women without hope of reward; since, for years, the net returns from exhibitions went to form the nucleus of the fund that, augmented by the bequest of Daniel Waldo, subsequently enabled the erection of this Hall. Preferences were officially expressed and the palm of decided preëminence assigned by appropriate committees; but no one was made suddenly richer by gains from voluntary contributions to our tables.

Curiously enough, while the above was written, and as if to illustrate with what confidence Horticulture may rely upon the amateur now, as of yore; a number of *Garden and Forest* comes to hand in which occurs the following suggestive statement:

"The extent to which Horticulture is pursued for pleasure merely, in Belgium, is shown by the membership list of the

Ghent Horticultural Society — 'Harmonie.' In the city of Ghent alone it counts 2,000 members, and of them only 30 are professional gardeners."

The *Renaissance*, as it were, of Herbaceous Perennials, and the increasing appreciation of their beauty, should encourage us in the present and stimulate to greater effort in the future. They are the flowers of any who choose. Hardy and handsome,—what more can be desired? Whether you look to plant or shrub,—you may stock a park or crowd a garden. An absurd fancy for bedding shams, conceived in the cupidity of professional gardening, relegated them for a while into a neglect that had almost become oblivion. Returning sense and a better taste recalls them to our service, and lo! Forsythia, Syringa, Althæa, Hydrangea, in their succession; and Rose, Iris, Pæony, Lily, Phlox, in such gorgeous and multiform glory as almost to dazzle while it attracts. Be it ever our policy, as it was that of the founders, to take learners by the hand, helping their first feeble steps. If these Exhibitions, so generously thrown open to a public that taxes us upon the slender resources whereby alone they are sustained, are worth anything save as a convenient way of distributing net income, it is because of the object-teaching that arouses interest and challenges rivalry. The curious of either sex see what others have done. Cannot they do as well? The thought haunts them; and sooner, or later, if such thought was not wholly aimless, the result will be conspicuous in these Halls.

So long as we allow ourselves to be content with the award and distribution of money — premiums, as our highest ultimate aim and purpose, perhaps, we achieve a measurable success. The quality of the Fruit and Vegetables for sale in the markets of this city, contrasted with those of yore upon which they show such a marked advance, is the actual evidence of what has been done under the kindly auspices of this Society. Shall such limited achievement continue to be our restricted object? A. D. 1892, but four short years hence, a Half-Century will have elapsed since this Society was incorporated,

"For the purpose of advancing the Science and encouraging and improving the Practice of Horticulture."

By those who are spared to see that day shall it be said that the God Terminus, or even *Pallida Mors*, called a halt to Flora, Ceres, and Pomona! Or shall not that date rather be commemorated by the new departure which, recognizing the vigorous state of the corporation, shall prepare to assume the obligations resulting therefrom? What mean those Lectures on Botany, continued with so little pecuniary support, but encouraged by a large and zealous attendance? Why has this Horticultural Society naught to do with them, or their like! And why, indifferent or neglectful, can we not perceive the adverse comment to which we subject ourselves through our penuriousness or sloth! I offer no specific recommendation. But in what manner can we better crown our fifty years of active and useful existence, than by the inauguration of some method or plan whereby our facilities and resources shall be rendered tributary to that endeavor, more or less sharply defined, that aims to establish here in Worcester, upon broad foundations, a complete and thorough University!

Your *Secretary*, as he has never suffered you to forget, believes in striking every obvious and possible shackle from inter-national, as well as inter-state, trade. Commerce thrives in the enjoyment of vigorous life, within the wide confines of the Republic. The car that carries a freight of boots or shoes—perhaps bunting! to Illinois, returning with a load of corn, or wheat-flour. If our Farmers can grow maize in economical rivalry with their brethren of the Sucker State, as some contend and claim to demonstrate, how much more should they be able to maintain their standing, when their competitors are handicapped by the cost of transportation across a trackless ocean! At present, Apples command a small price—the fruit being plentiful, its juice—sinful. Why not make unto ourselves friends of the Mammon of Unrighteousness! Why not entice John Bull to partake of the iniquity! thereby filling our pockets by a sort of vicarious atonement;—the scape-*goat* being the *bull* aforesaid! It may be that some fingers still smart from contact with that fire. Other some may dread to make the test for themselves. But that Duncan C. Pell built up for himself a profitable trade, in a single variety of

American Apples; that he established the character of that variety upon such a plane that, throughout all England, the name of Newtown Pippin is a synonym for excellence; and that the Newtown Pippin itself is inferior to numerous kinds that suggest themselves, at first thought, to an American Pomologist; are not these all facts of indubitable verity,—that should be pregnant with suggestion in this very crown and plentitude of an exuberant fruiting? In this year of grace, 1888, Worcester County has more Apples than can be cared for at home; however many may be eaten, dried, or ground in wicked mills. England lacks in precisely similar measure. She never did,—probably could not, grow our varieties, whose excellence she is beginning to appreciate; and of such as approve themselves congenial to her climate and soil the imminent deficiency is greater than usual. Commerce, however, implies reciprocity. There must be a return cargo, otherwise the voyage will be profitless if it does not involve a certain loss. In times not so far remote Coal was free from import and was brought over in ballast. But Massachusetts has been whipped to hunt in the same political leash with Pennsylvania, and, in each division of the net spoils of their chase, usually gets the option of a buzzard,—her mate reserving the turkey. No axiom can be plainer than that if we decline to obtain what we want, by barter, we shall have to pay for it with cash. Neither, individuals, nor a community, can endure an incessant, unremunerative drain upon their resources. Live and let live! is the essence of true Christianity, for which "Root hog, or die!" can furnish but a poor substitute. The Home Market is close at hand. Are there not, within hearing, Pomologists who wish that its area and capacity were not quite so restricted? That an extra wagon load should not cause a glut!

The development of the international trade in Fruit, of late years, has been noteworthy. Leaving out of all account the Banana, with which few would care to dispense, let us confine ourselves to the commerce in Apples. Said the *Anglo American Times*, awhile since:—

"The business of exporting Apples is increasing. Three years ago, 220,000 barrels were shipped from New York; in 1885 302,000 barrels, and last year 349,000 barrels."

Reviewing the apple-shipping season, not so long ago, A. C. Lombard's Sons sum up, as follows:—

"This shows that the total exports from the United States and Canada for 1887–8, were 608,588 barrels as against 811,410 barrels for 1886–7. The shipments from Boston amounted to 164,268 barrels, against 306,693 for the previous season. About one-half of the shipments were made to Liverpool."

And being at Liverpool, the seaport of Western England, the condition that confronts the Pomologists of Worcester County is why an irrational theory should be allowed to prevent the barter of our fruit for some of those superb woollens that our "Infant Industries" refuse to produce until they are weaned per force!

Of course, it cannot be necessary to remind this Society that exports will be larger upon the bearing year; and that 1887–8 could not be included within that category, which will account for the temporary falling-off in shipments. The Home Market for the produce of our orchards we possess now; and like the Wheat-growers, we find it insufficient. We cannot sell our Apples to Pennsylvania; but yet we cannot do without Coal! Yet Coal is a cash article, like a receipt for Taxes. Do not some in this audience feel the chafing from that shackle, forged under the stress of a military necessity, and perpetuated at the behest of a political alliance? If you can contrive to enlarge your market so as to get 25 or 50 cents more per barrel, for your fruit; in the name of common sense what should keep the shrewd Yankee from pocketing such gain! His own labor with that of his family *is* Home Industry. Yet that industry is at every turn, subjected to burdens grievous to be borne; which, in their very levy, are an imposition upon himself, of all men. By the sweat of his brow is commerce built up, whether on land, or water; and as he prospers, so should our ships vex the seas. Of all men the Terræculturist is bound to insist upon the widest market. "By their fruits ye shall know them!" might, under rational legislation, be stenciled, in Covent Garden, upon the Apple barrels of Eames, Rice, or Wyman.

But even for supplying the Home Market only, sound judgment and fair precaution will never come amiss. The man who can reserve his fruit until there is a demand, will get the profit withheld from him who forces the market. Hence the benefit of cold storage; which, after all, is but the application, upon a larger scale, of the methods by which Newton and Ripley were wont to keep until Spring, and then exhibit, to your surprise, those Pears of perfection. A review of the market, April 3, 1887, covering the close of an abundant season, will clearly illustrate what may come to those who can and do wait:—

"For Apples the market continues firm, with the supply lighter than usual at this time of the year. The fact of the matter is that Apples are well cleared up; and it is safe to say that all concerned, from the grower to the buyer of round lots to sell again, have made at least a fair profit on Apples this year. The market is firm at $3.25 @ $3.50 for good State of Maine Baldwins; while choice have been sold at higher prices. There is some Massachusetts and Western fruit offered at less figures. It is noted that there are fewer Russets offering this season, than usual; and good bright fruit of this class would bring good prices. There is but little doing in the way of exporting Apples, in fact, there are but few to export. The receipts for the week were 2,092 barrels; last year, 5,563 barrels."

As to the prospects for the export trade in Apples, the present season, the circular of Woodhall & Co., of Liverpool, recites that,—

"After a late cold Spring, followed by a miserable Summer, returns are only what might be expected, and are the most unfavorable received for many years. Of 146 reports giving the crop as under average, with many it means that there are none at all, especially in the most important sections. The weather continues most unseasonable; and it is probable that when the time for gathering arrives, present estimates must be again reduced, and the quality will be found most inferior. Advices from the continent are also unfavorable, except some small sections of France, which will not affect our market.

Under these circumstances it will be seen that England will be prepared to take large quantities of foreign apples, and should the American and Canadian crops (which are the must appreciated) be good, there will be an immense demand at satisfactory prices."

The columns of the *Chronicle* and *Garden*, lying upon our Library tables, bear concurrent testimony to an unpropitious season and a sadly deficient yield from the English orchards.

Soft-witted enthusiasm should find no place in the consideration of this matter. Actual facts, clearly determined and plainly stated, are its only proper solution. Competition presses closely in every market abroad or at home; and the writer has never forgotten that the orchards of Nova Scotia maintain a most formidable rivalry with our own. It is but a few weeks since a most intelligent correspondent of the Sunday *Spy* thus wrote and predicted, with some degree of extravagance perhaps, but yet upon a solid basis of fact:

"The Annapolis and Gaspereau valleys contain about 600 square miles of cultivable land. At the present time one-tenth of this area, or nearly 40,000 acres, is planted with apple trees. Almost a half-million barrels of Gravenstein, Baldwin, King of Tompkins, Nonpareil, Russets, Ribston Pippins, and other varieties of apples are now annually yielded and exported. Over three-fourths of this area is yet in young trees. From 5,000,000 to 10,000,000 barrels of apples will certainly be raised annually in these two valleys within ten years' time. They are proven to be the finest and hardiest varieties in the world, and the demand is never met. In the fall, American buyers fill the region, purchasing 1,000-barrel lots. Experience has proven that the European markets are just beginning to know this fruit region, and, as every barrel which can now be secured is taken there, the competition between American and English buyers will always insure the Annapolis valley apple raisers from $3 to $5 per barrel in gold. The method of English shipment is highly interesting and is additional good luck to Nova Scotia apple farmers. He has only to pack his apples carefully, stencil and brand his name upon it, mark it "John Doe," or "John Roe, London," and deliver it at any depot of the valley railway. If he sends 100 or 1,000 in this way he has no further trouble or anxiety. His apples go direct to Halifax. There steamship agents, who are practically agents of London buyers, care for them. In three weeks' time the apple grower receives by mail exchange on London for the apples he has left at the station platform, and the price is the highest paid in the world. These conditions are giving a great impetus to apple culture in this wonderful valley. About 40 trees are planted to the acre, and at maturity yield from three to seven

barrels of apples, for which never less than $3, and often more than $5, per barrel is secured. The whole valley is a vast orchard, and every farmer is rich, or rapidly getting rich.

* * * * * * *

"In wandering through the valley an interesting reflection came to me, and I wondered whether it might be so to others. That was that wherever apples grow a kindly, sturdy and progressive people are ever to be found. Think it over, and the idea grows upon one. Great houses, greater barns, fine stock, ample competence, large provision for all seasons and needs, sturdy ways, sensible thrift, genial neighborings, and all that dear procession of country-side life that has vigor and cheer, with Autumn's noble housings and stores and Winter's large and generous delights, marshal the thought in memory's bravest trappings."

Are not "great houses, greater barns, fine stock, sturdy ways, genial neighborhoods" to be found not alone in the valley of the Gaspereau; but as well along the intervales of Half-Way River, the Blackstone and the Nashua? Hath Rome indeed "lost her breed of noble bloods?" If so,—how largely may the blame be attributed to that celibacy which exacts yearly increase from flock and herd, but withholds its own tribute to the primal law lest haply, "his children should be like olive-plants round about his table!" The modern gospel at too many a Yankee Farmstead is, alas! not "happy is the man that hath his quiver full of them;" but can a vicarious procreation be maintained by virtue of a pedigree accredited to this Jersey heifer—that Southdown ram!

Yet in this, as in all other matters of earthly concern, the fittest shall surely survive. And, that the victory may be our own, needs but a tithe of that energy which is expended without grumbling, in every other branch of Terræculture. The tree must not be suffered to exhaust its vitality by a crop of ten or twelve barrels in full maturity. The fruit must be thinned; and although the number of specimens may be diminished, the yield will be ample, while the returns from it are proportionately greater. You may say that this implies hard work! but how much profit did you ever derive from laziness? You can not harvest your rye while swinging in a hammock. If a cloud threatens, you hurry and get it under cover, even though it should

chance to be Sunday on Olean, or Mountain, *Streets*. But when the caterpillar weaves his web, you vow that you will remove it at once. You don't, however, for it is only an apple tree; nor do you interrupt the cankerworm* in his work of devastation. You will plough, harrow, cultivate, even hand-hoe maize; and all for a crop of grain that, computing your own labor, it is questionable if you could not buy cheaper. But you grudge any of that toil in your Orchard, which is neglected as usual. The vigor of the branches may be sapped by sprouts: its trunks enveloped with moss or scale—a sure harbor for insects,—its fecundity may be as excessive as the specimens are knurly and poor; but—was not such ever your habit? And do you not hold your own at the Agricultural Exhibitions?—where easy-going judges are "to your faults a little blind."

I would not weary your good nature; but I cannot be patient with that sort of pomological malingery which neglects an orchard until it becomes worthless, and then destroys it because it yields no return. Nothing else within the broad domain of Terræculture is so treated. The man who will almost break his back thinning out turnips, or weeding the fragrant onion, considers it intolerable hardship to reduce the excessive yield of his apple trees. The work is cleanly, can be done in an upright posture, between seed-time and harvest. But—my father never

*The Cankerworm Disgrace.—A good apple tree, well established in bearing, if estimated by the income which may be derived from it, is worth from $30 to $100 and more. In other words, the individual trees in a good orchard are worth as much as the individual animals in a good herd of cattle. Owners of herds spare neither time nor trouble, nor outlay in money, in order to keep their herds healthful; but owners of orchards stand by and do nothing, while the cankerworm destroys their trees. It is a shame. The effective remedy, spraying with a solution of one pound of Paris green or London purple to 100 gallons of water, is inexpensive. The use of these poisons requires care; but long experience with them in fighting the potato bug makes it easy to exercise the requisite care in saving the orchards. The apathy with which we submit to ravages of the cankerworm would lead a foreign observer, ignorant of our character, to infer either that we are not sufficiently intelligent to measure the loss, or else that we are fatalists, like the Mohammedans, and accept the cankerworm as a dispensation of Providence, which it would be useless and perhaps impious to oppose. We know better. Our people are neither unintelligent nor fatalistic. The trouble comes from ultra conservatism. We have always been used to letting the orchard take care of itself, and it is hard for us to realize that fruit trees, as much as domestic animals, may require and will reward watchful protection. There are times, however, when conservatism becomes disgraceful, and I think this is one of them.—*Amherst, Mass., cor. Homestead.*

did so and why should I? Can you not see that the glut in the market, whereof you complain, is caused by this over-production of good, indifferent, or positively bad, which offend the eye and repel the taste? "There is room enough at the top!" said Daniel Webster to the young lawyer who sought encouragement. More now than ever do men desire the best of everything. And he who supplies it, without evasion or fraud, will surely command the success that he deserves, though at times the reward may seem slow of coming.

For the pomologists of this Society, at least, there can be no valid excuse. What they might accomplish can be predicated from their past and present achievements. They go to Boston, or to Springfield; and whether from the banks of the Charles or Connecticut, return laden with spoils. The Massachusetts Horticultural Society admits their evident superiority, and the Bay State Agricultural concedes its supreme awards. Why then not compete with the farmers along the valley of the *Gaspereau* for more lucrative returns? Shall we confess inferiority to the Blue-Nose; own that for skill in culture and honesty in marketing, we have at last met our superiors! Home Industry! prate less about it, but illustrate it in practice! Rest assured that in this, as in all other material affairs, where there is a will there is a way! And that, if we elect to sit with folded hands, waiting for the gods to provide; there is no good reason why the orchardists of Nova Scotia, who prefer to work out their own salvation, should not reap quick and rich reward from their assiduous labor.

"The spoiler is fallen upon thy summer fruits, and upon thy vintage," wailed Jeremiah, of old; and the townsman and granger of this latter day may well echo his lamentation. There is a law against Truancy; and Truancy is the commonest offence. There are statutes prohibiting Theft; and like most prohibitory statutes, they are more honored in the breach than the observance. "Thou shalt not steal!" is the burden of many a lesson at the Sunday-School; blazoning its own suggestive legend upon the tablets that adorn the walls of the sanctuary. But the small boy,—and the children of a larger growth,—approve themselves

equal to the emergency. It is a theory that confronts them—not a condition. Their name is legion and they are gregarious,—prowling in gangs. Their keen sight espies the Red Astrachan from afar and they take it for granted that *Mrs.* Green has gone to church. So the smallest,—who has a pair of shoes, and a whole seat to his trousers, creeps stealthily along the division fence. Just as he has beckoned to his fellows; spirits more evil than himself in that, with like appetite, they have less daring; the voice of your *Secretary* shouting the war-whoop of Pomona, falls upon their affrighted ears and

"The wicked flee when no man pursueth!"

Thus "conscience doth make cowards of us all."

It was at three o'clock in the afternoon of a week-day when the orchard of Charles L. Pierce was cleaned out. The tale may not be exact; but that will be a safe reckoning which puts it well nigh upon seven boys, three girls, and two capacious baskets. They were not dainty; if immature, Gravensteins were worth carrying off and green Bartletts satisfied the cravings of those more fastidious.

As for the charming Roses of *Dea.* Griffin,—have not the foot-walks of Cedar street been strewn with their wasted petals? What we do not possess, ourselves, no one else shall cultivate and enjoy is the gospel that these imps of malicious mischief are suffered to practice, as they prey, without ceasing.

If the turn of the Granger comes later, with none the less certainty does the Assyrian descend upon his fold. The average bummer is lazy; so he employs a team to convey himself to the scene of proposed depredation and to haul back his spoil. When nuts are ripe, ponderous mauls must be carried along to jar the tree to the inevitable ruin of its trunk. For the wounds caused by the abrasion of their bark surely, if slowly, result in the decay and death of nut-bearing trees. This variety of hoodlum elects Sunday for his raids; since he can thus elude the observation of his wife or mother who, on that day at least, is not toiling to keep the breath of life in his worthless carcase. Besides, the odds are that the Granger maintains the old-fashioned custom of "going to meeting," and will therefore be off guard. And over

and beyond all,—larceny and trespass, on Sunday, are infected with a delicious taint that carries with it a peculiar charm of its own. So they swarm; for in their mere number is immunity. And if hordes are but strong enough, theft ceases to be a crime, being transmuted into, as it were, a simple *malum prohibitum.*

There is but one unpardonable sin! under the modern electric light,—and that is Thirst. Therefore must lice be suffered in the Hop-yard, and Barley withhold its golden grain, that Beer may no longer be brewed and bottled for the minister and his predestined saints. To that end should the apple be surrendered to the cankerworm and codling-moth that, the fruit being spoiled, there may be no more cider; and honest vinegar cease to be used upon beans. Pears shall be allowed to blight, at hazard; that perry may never again be tolerated, save perchance by the Committee at an Agricultural hippodrome. "Property is Theft!" shrieked the Frenchman; and he has never lacked disciples to reduce his dogma to practice. "Property is Crime!" yell the Pharasees, when the Grape is plucked from the vine and its juice sealed up in a bottle. What wonder that, with such laxity of thought and absurdity of logic, men of only common intelligence should be thrown off their balance; should confound the distinction between right and wrong; and should conclude that there is more truth than poetry in the old distich whose burden was ever

> "That they should get who have the power;
> And they should keep, who can."

Nothing novel, of manifest excellence, was shown in our Halls during the season just past. Old and approved varieties, whether in the domain of Ceres, Flora, or Pomona, maintained their established rank despite the unpropitious season. Yet their names were as familiar as household words and their preëminence universally conceded. Time, however, may be said to have set the seal of approval to the *Ansault* and *Earle's Bergamot*, among Pears; and those varieties of recent introduction, should now take first rank. It is plain that the Ansault matures later than has been supposed: specimens gathered on the 9th October being one-third larger than those which gained the award on the 6th September previous. Juicy as the *Belle Lucrative*, it has

more character than that well-known variety, while equally prolific; and has the merit, whereof the Lucrative is signally deficient, of not rotting at the core. Your *Secretary* has been cautious, heretofore, in expressing a decided opinion of this variety, as he first introduced it to your notice. He has no hesitation now, in pronouncing it, for those who love pears because of intrinsic merit, a rare acquisition.

As much might be said of *Earle's Bergamot*, did it not inherit in measure more or less qualified, the tendency of the Lucrative to rot at the core. Otherwise, it is of marked excellence and approves itself worthy to bear the honored name of him by whom it was originated. The Belle Lucrative has yielded much to cross-fertilization. But none of its offspring have ever shown so many and decided good qualities as that which is traced to this union with the Autumn Bergamot. For its own sake and that the variety created by John Milton Earle may not be wholly lost, our members should see to it that its scions are widely diffused and that its perpetuation is made an object of local pride and care.

And yet the postulate which assumes that there has been nothing new, of signal high quality, to challenge your scrutiny and favor, may be too sweeping. For it would exclude numerous apples of recent origin, of which some, commended when first shown, have been decided to merit encouragement and more extended trial. Notable among these are the seedlings of our associate, Thomas A. Dawson, and one which, during the current Autumn, was placed upon our tables by Mr. John Hough. Both climate and soil of Worcester County have approved themselves congenial to the apple. The Baldwin was a sport of chance. Shall there therefore never be another happy accident? Ensuring to our enjoyment and profit a fruit of fairer appearance, richer flavor, and of less exhaustive fecundity? Its development might exact attention and patience, design and careful semination being admitted within our category. It would not answer to let cattle browse them. But such a variety, maturing in Winter, is wanted in both the Home and Foreign Market; and fame and fortune will be the just reward of the man by whom it is produced.

There was little complaint of *Pear-Blight* during the past year. Shall we therefore conclude that there were no Bacteria to do harm, or instead that they had lapsed into "innocuous desuetude?" Perhaps Science will exclaim, in view of our comparative exemption from this dreaded scourge, for the season just past,—"so much the worse for the facts!" But to those of us who prefer proof to assumption, or dogmatism; and who almost incline to faith in the periodicity of disease; food for reflection is supplied in the significant fact of the recovery, by many old favorites among pears, of their pristine health and vigor. Beurre Diel and Flemish Beauty were almost abandoned,—so sure were they to crack, becoming worthless. And yet, of late years, specimens of either variety have been shown in our Hall, of unsurpassed excellence, whether regard was paid to size, symmetry, or beauty of appearance. Man had accomplished nothing to effect a cure. Was Nature idle?

The failure of the GRAPE to mature its fruit has been a serious disappointment and loss. So unpropitious was the season that the wonder is that any clusters should have become edible,—let alone fit to eat. In these closing days of October, the Diana hangs half-colored, where it never before went back upon a confident faith. Under similar conditions the Barry, Lindley, and Massasoit of the Rogers Hybrids; and the Brighton, of more recent origin; were the only varieties that did not set the children's teeth on edge. Of those, especially, persistent trial warrants the statement that where they can be grown so as to be shielded from the earlier frosts, they will be sure to repay cultivation with a crop thoroughly ripe. The broad jet to a modern dwelling-house answers the requirement admirably: if the building is of brick, the warmth of the walls will be a decided advantage. In a garden, where the vines are trained upon an upright trellis, a six-inch board will supply an adequate coping. Glass would be better where economy is not urgent. That the Grape can be grown, and well-ripened, almost anywhere in Worcester County, has been fully demonstrated. So delicious a fruit is worth all the pains that its cultivation may require. True, original sin lies latent in its juice! But then how easy to suspend the laws

of Nature, and arrest fermentation and total depravity by a simultaneous prohibition!

Moreover, new kinds are continually developed. If no actual advance upon the Iona, in point of quality, is yet manifest, it is certainly not from lack of experiment. But we could well afford to be content with that grand variety, were it endowed with a greater degree of hardiness. Let us wish success to all efforts, by whomsoever made, to produce the Grape of the Future! And until that ideal is in actual possession, let us do the best that we can, under the skies of New England, with the many excellent varieties that we already enjoy. A single adverse season should not paralyze a generation.

All which is respectfully submitted,

by

EDWARD WINSLOW LINCOLN,

Secretary.

HORTICULTURAL HALL,

Worcester, Worcester Co., Mass.,

7 November, A. D. 1888.

REPORT OF THE LIBRARIAN.

To the Members of the

Worcester County Horticultural Society:

The Librarian, in submitting his annual report, has nothing of special interest to mention. The Library has been consulted at the room quite as much as usual, and books taken to the homes of members to the number of about 300, all of which have been returned excepting a few that can be brought in at call.

The condition of the Library is satisfactory with the exception of a want of shelf-room, and a considerable outlay for binding. It is hoped that both of these matters will be attended to the coming year.

The following list comprises books, pamphlets and papers added to the Library during the past year, by purchase or gift:

Report of Department of Agriculture; 1877, '78, '79; 1880, '81, '82, '84, '85, '86.

Statistical Abstract for Foreign Countries, for each year, from 1873 to 1885.

Statistics of Public Libraries of the United States; from the Report of the Commission of Education for the year 1884, '85, with additions. Pamphlet; Dept. Int. The management of Public Libraries; by William F. Poole. Pamphlet. The Republic of Mexico in 1876; a Political and Ethnological Division of the Population, Character, Habits, Costumes and Vocations of its Inhabitants. Written in Spanish, by Antonio Garcia Cubas. Translated into English by Geo. E. Henderson.

Report from the Consuls of the United States: Nos. 83, 84, 85, 86, 87, 88, 89, 90, 91, 92.

Report of the Commission of Navigation to the Secretary of the Treasury; from W. W. Rice.

Report of the Commissioner of Agriculture for 1886; from W. W. Rice.

Department of the Interior, the following: Salt, by Albert Williams, Jr.; Quicksilver, by Albert Williams, Jr.; Sulphur, by D. T. Day.

Bulletins, Nos. 1, 2, 3, 4, 5; from State Board of Health, of Nashville, Tenn.

The Study of History in American College Universities, by Herbert B. Adams; from the Bureau of Education.

Third Inaugural Address of Hon. Samuel Winslow, Mayor of the City of Worcester.

Memoir of Alexander H. Bullock, by Charles Devens; E. W. Lincoln.

American Pomological Society; years 1856—1862, '67; 1873, '75, '77, '79; 1883, '85; R. Manning.

Transactions of the Massachusetts Horticultural Society, Part 1, 1887, and Part 2, 1886, 1887.

Curtis Botanical Magazine, 1887, Vol. 43, 3d Series, or Vol. 113 of the whole work; Society.

Proceedings of the Forestry Convention, held in Grand Rapids, Mich., Jan. 26, 27, 1888.

Hints for Arbor Day; Agricultural College, Michigan.

Chemistry of Food and its Adulterations; from State Board of Health, Tennessee, 1888.

Report of Commissioner of Education, 1885, '86.

Revue Horticole, 1887; Society.

Proceedings of the Annual Meeting (15th) of the Massachusetts State Grange Patrons of Husbandry, held at Springfield, Dec. 20, 21, 1887; James Draper.

Fifth Annual Report of the Board of Control of State Agricultural Experiment Station, at Amherst; Doc. No. 33.

Bulletin No. 34, State Agri. Ex. Station of Michigan; relating to Potatoes and Oats.

Journal of Horticulture, vols. 15 and 16; 3d series; Society.

Report on the Adaptation of Russian and other Fruits to the extreme Northern portion of the United States; Dept. of Agriculture.

Census of Massachusetts, 1885; Agricultural Products and Property; H. L. Parker.

State Board of Health, 1887; H. L. Parker.

Bulletin Nos. 40 and 41, Experiment Station, Agricultural College, Michigan.

Catalogues received: Aaron Low, Essex, Mass.; V. H. Hallock & Sons, Queens, N. Y.; Peter Henderson & Co., New York; John Saul, Washington, D. C.; Henry A. Dreer, Philadelphia, Pa.

Extract from Monthly Weather Review, July, 1888, showing

average date of first killing frost at Stations of Voluntary and State Weather Service Observers; Department of State.

The American Horticultural; Monthly; Society.
The American Florist; Semi-Monthly; 1888; Society.
Gardening Illustrated; Weekly; 1888; Society.
Vick's Magazine; Monthly; 1888; Society.
The Garden; English Weekly; 1888; Society.
The Gardener's Chronicle; English Weekly; 1888; Society.
The Agricultural Gazette; English Weekly; 1888; Society.
The American Agriculturist; Monthly; 1888; Society.
The Country Gentleman; 1888; Society.
Garden and Forest; Weekly; 1888; Society.

All of which is respectfully submitted.

CHARLES E. BROOKS,
Librarian.

HALL OF FLORA,
November 7, 1888.

OFFICERS AND COMMITTEES

OF THE

WORCESTER COUNTY HORTICULTURAL SOCIETY.

FOR THE YEAR 1888-9.

PRESIDENT:

HENRY L. PARKER, of Worcester.

VICE-PRESIDENTS:

STEPHEN SALISBURY, of Worcester; GEORGE E. FRANCIS, of Worcester; H. F. A. LANGE, of Worcester.

SECRETARY:

EDWARD WINSLOW LINCOLN, of Worcester.

LIBRARIAN AND TREASURER:

CHARLES E. BROOKS, of Worcester.

TRUSTEES (BY ELECTION):

George Cruickshanks, of Lunenburg.

O. B. Wyman,	Shrewsbury.	Newell Wood,	Millbury.
Charles E. Parker,	Holden.	David L. Fiske,	Grafton.
Frederick A. Blake,	Rochdale.	Henry B. Watts,	Leicester.
James F. Allen,	Worcester.	J. Henry Hill,	Worcester.
Henry Woodward,	"	James Draper,	"
William T. Merrifield,	"	F. M. Marble,	"
William H. Earle,	"	Luther R. Eames,	"
H. M. Quinby,	"	Calvin L. Hartshorn,	"
Samuel Flagg,	"	Joseph Lovell,	"
Frank J. Kinney,	"	Frederic G. Stiles,	"
John C. Newton,	"	Edwin Morse,	"
Emory Banister,	"	John Midgley,	"
John D. Lovell,	"	S. H. Record,	"
George F. Hoar,	"	Adin A. Hixon,	"
George Calvin Rice,	"	Simon E. Fisher,	"
O. B. Hadwen,	"	John L. Peters,	"
William Eames,	"	Mrs. Daniel Tainter,	"
Sylvanus Sears,	"	Mrs. John H. Coes,	"
Joseph Brierly,	"	Mrs. T. L. Nelson,	"
Thomas A. Dawson,	"	Mrs. Adin A. Hixon,	"
Charles Greenwood,	"	Mrs. Thomas Ward,	"
Joseph W. Powers,	"	Mrs. F. H. Merrifield,	"

STANDING COMMITTEES.

ON FINANCE:

Nathaniel Paine, 1889. George E. Francis, 1890. Edward W. Lincoln, 1891.

ON LIBRARY AND PUBLICATION:

Edward W. Lincoln, Charles E. Brooks, George E. Francis.

ON NOMENCLATURE:

James F. Allen, George E. Francis, Hermann F. A. Lange, O. B. Hadwen, James Draper, F. M. Marble, Charles Greenwood, Edward W. Lincoln.

ON ARRANGEMENTS AND EXHIBITIONS:

James Draper, *Chairman*.

Newell Wood, Charles E. Brooks, Calvin L. Hartshorn, Hermann F. A. Lange, O. B. Hadwen, Adin A. Hixon, Charles Greenwood, F. M. Marble, O. B. Wyman, Charles E. Parker, William H. Earle, H. B. Watts, J. L. Peters, George C. Rice, Edward Hall, with *President* Parker, and *Secretary* Lincoln.

AUDITORS.

Emory Banister, Henry L. Parker.

JUDGES.

ON FLOWERS, PLANTS, ETC.:
William H. Johnson.

ON FRUITS, ETC.:
James Draper.

ON VEGETABLES, ETC.:
Charles Greenwood.

SCHEDULE OF PREMIUMS

OFFERED BY THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY,

FOR THE YEAR

1888.

The attention of Exhibitors is particularly called to the Rules and Regulations, General and Special.

Worcester, Mass.
CHARLES HAMILTON, PRINTER,
311 MAIN STREET,
1888.

COMMITTEE
ON
ARRANGEMENTS AND EXHIBITIONS.

James Draper, *Chairman.*

Calvin L. Hartshorn,
Adin A. Hixon,
Newell Wood,
W. W. Cook,
O. B. Hadwen,
F. M. Marble,
O. B. Wyman,
Charles E. Parker,
William H. Earle,
Charles E. Brooks,
Hermann F. A. Lange,
Charles Greenwood,
H. B. Watts,
J. L. Peters,
George C. Rice.

President, - - Francis H. Dewey.

Secretary, Edward W. Lincoln,
Nos. 5 Oak and 18 Front Sts.

JUDGES OF AWARD.

Flowers, Plants, Etc.—Adin A. Hixon.
Fruits, Etc.—James Draper.
Vegetables, Etc.—Charles Greenwood.

COMMITTEE ON NOMENCLATURE.

James F. Allen,
Hermann F. A. Lange,
George E. Francis,
O. B. Hadwen,
James Draper,
Charles Greenwood,
F. M. Marble.

GENERAL RULES FOR ALL EXHIBITIONS.

A. Strict conformity to the Regulations and Rules will be expected and required, as well for the benefit of Exhibitors as for the convenience of the Officers of the Society.

B. Correct and legible names must be attached to each and every Flower or Plant entered in a class of named varieties.

C. All articles offered for premium must remain within the Hall throughout the hours of Exhibition, unless special permission for their removal shall be granted by the Committee on Exhibitions, etc.

D. All *Small Fruits* must be entered in boxes or baskets (except in the case of Strawberries and Currants, which are to be shown "*flat*"); but they may be displayed subsequently in plates or dishes, at the taste of the exhibitor.

E. No person can compete for more than one premium with the same variety of Flower or Fruit; nor can any person take more than one premium under the same number.

F. The Judges may correct, before the close of any Exhibition, awards made by them, if satisfied that such were erroneous.

G. The cards of competitors shall be put, reversed, beneath the plates; and the Judges of Award shall be excluded from the Hall of Exhibition until the Exhibition itself is ready for judgment.

H. Competitors are expected to conform strictly to the conditions under which articles are invited. Evasion or violation of them may be reported to the TRUSTEES for future disqualification of the offender.

RULES AND REGULATIONS.

1. Exhibitions will be held on March 15 and April 12. Commencing May 17th, there will be Exhibitions every Thursday afternoon until and including October 25th, A. D. 1888. The hours of exhibition will be between 3 and 4.30 o'clock. Articles offered for premium must be in the Hall by 2.15 o'clock P. M.

of the days of exhibition. Between 2.15 and 3 o'clock the Hall will be in exclusive charge of the Secretary, and the Librarian, who will allow no one else to be present. The Judges of Award may be admitted under the limitations of GENERAL RULE G.

3. Competition for premiums is open to all; but a discount of one-third of the amount will be made from awards to persons who are not members of the Society; and it is strictly required that all specimens offered for premium shall have been grown by the competitors, on their own premises, *within the County of Worcester*, for a period of at least one (1) month previous to the date of exhibition.

3. After the articles are arranged they will be under the exclusive charge of the Judges, and *not even the owners* will have liberty to *remove* them until the exhibition is closed; when they will be delivered as the contributors may direct.

4. No cards of a business nature will be allowed in any Exhibition.

5. Where a certain number or quantity of Plants, Flowers, Fruits or Vegetables is designated in the schedule, there must be neither more nor less than that number or quantity of specimens shown; and in no case can any other varieties than those named in the schedule be substituted.

6. It will be the duty of the Judges to *exclude from competition all inferior specimens.* Also, all such *Designs* as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making Awards, will especially regard uniformity in size, symmetry of form, and beauty in color.

7. The Committee of Arrangements have power to change the time of exhibition for any article, if an earlier or later season renders such change necessary; and the Secretary is requested to give notice of one week, in some daily paper, and also at the preceding Exhibition, when a change in the Schedule is proposed.

8. All articles offered for premiums must be correctly named. Indefinite appellations, such as "Pippin," "Sweeting," "Green-

ing," etc., will not be considered as names. Any person exhibiting the same variety of Fruit or Vegetables, under different names, or exhibiting as grown by himself, Flowers, Fruit, or Vegetables grown by another, thereby violating the objects and rules of the Society, shall be debarred from competing for the Society's premiums until reinstated.

9. No Flowers, Plants, Fruits or Vegetables will be entitled to a premium unless they possess points of superiority; and the Judges are *strictly required* to withhold premiums if, in their opinion, the articles exhibited do not merit them; nor shall any specimen for which a premium has been once awarded, receive another during the season.

10. Competitors will be required to furnish information as to their mode of cultivation, and to present specimens, for trial and examination, if requested.

11. In all exhibitions of Cut Flowers, for competition, the use of foliage must be restricted to that of the varieties shown; and not more than three blooms, clusters or spikes, all which shall be of one color, and of one variety, shall be allowed in the same bottle, or vase, except when otherwise specified in the schedule.

12. No Judge shall award a premium or gratuity in any case wherein he is a competitor, or has an actual or resultant interest; in any such case the judgment shall be rendered by any three of the Committee on Arrangements and Exhibitions whom the Judge shall invite.

13. No Judge shall require anything of competitors respecting their exhibits, which is not distinctly specified in the schedule. No Flowers, Fruits, etc., etc., shall be put on the tables, for competition for premiums, by any person who is a judge as to the awards to be made for Fruits, Flowers, etc., etc.

14. The standard number required for an exhibit, whether of Fruits or Vegetables, will be Twelve (12); unless otherwise specifically declared. The usual limit of measure, save for SMALL-FRUITS, will be a half-peck.

15. All premiums that are not claimed within three months after the close of the official year shall be forfeited to the Society.

16. The awards will be made known as soon as the cards can be filled out and placed upon the tables.

17. "Downing's Fruits of America," revised edition, will guide the Judge of Fruits in his decisions upon matters at issue.

☞ The Judges are authorized by the Trustees, to invite the assistance of competent and discreet persons in the discharge of their duties.

FLOWERS, PLANTS, FRUITS & VEGETABLES.

A. D. 1888.

☞ The Committee on Arrangements and Exhibitions would direct the earnest attention of the Judges to *Rule 6!*

6. *It will be the duty of the Judges to exclude from competition all inferior specimens. Also, all such designs as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making awards, will especially regard uniformity in size, symmetry of form, and beauty in color.*

FLORAL. Special Rule—In all cases where dimensions are prescribed for exhibits, the measure shall be understood to be that of the flowers, solely; never admitting the basket, foliage, or any garniture of green.

Thursday, March 15.

☞ The Committee on Arrangements and Exhibitions *will meet at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

Special Schedule of Premiums for Bulbs Flowering in Spring.—"The General Union of Holland for the Cultivation of Flower Roots" offers, through this Society,—

A. For 18 Hyacinths in pots, in at least 9 sorts, and not more than 2 pots of same sort,—

First premium.....1 Medal, Silver-Gilt.
Second premium ... .1 Medal, Silver.
Third premium.....1 Medal, Bronze.

B. For 12 pots Single Early Tulips, 3 bulbs of one sort in each pot, in 12 sorts,—

First premium.....1 Medal, Silver.
Second premium.... .....1 Medal, Bronze.

C. Polyanthus Narcissus (*Narcissus Tazetta* or Bunch Flowered).—

It should be particularly understood that these prizes are intended for Polyanthus Narcissus *only, and no others.*

For 10 pots Polyanthus Narcissus, 3 bulbs of one sort in each pot, in at least 5 sorts, and not more than 2 pots of each sort,—

First premium.....1 Medal, Silver.
Second premium.....1 Medal, Bronze.

HYACINTH,—IN BLOOM.—

No. 1.	Six plants, four premiums.....	$3 00	2 00	1 00	50
No. 2.	One plant, two premiums....			1 00	50

PRIMULA SINENSIS,—IN BLOOM.—

No. 3.	Four plants, four premiums.....	$3 00	2 00	1 00	50
No. 4.	One plant, two premiums.....			1 00	50

CINERARIA,—IN BLOOM.—

No. 5.	Four plants, distinct in color, four premiums.....	$3 00	2 00	1 00	50

CYCLAMEN,—IN BLOOM.—

No. 6.	Four plants, four premiums.....	$3 00	2 00	1 00	50
No. 7.	One plant, three premiums		1 50	1 00	50

ARUM (RICHARDIA),—IN BLOOM.—

No. 8.	Best collection; grown in a pot, or tub, not exceeding 16 in. in diameter, four premiums.....	$3 00	2 00	1 00	50
No. 9.	One bloom, with foliage (the largest), two premiums.....			1 00	50

CUT FLOWERS.—

No. 10. Twenty blooms or clusters, distinct, in vases, four premiums $3 00 2 00 1 00 50

BOUQUET—(HAND).—

No. 11. Not more than 9 in. in diameter, four premiums. $3 00 2 00 1 00 50

APPLE.—

No. 12. Any variety, named, gratuity.

PEAR.—

No. 13. Any variety, named, gratuity.

VEGETABLE.—

CABBAGE,

No. 14. Brunswick, 3 specimens, three premiums.$1 50 1 00 50
No. 15. Savoy, 3 specimens, three premiums.....$1 50 1 00 50
No. 16. Red Dutch, 3 specimens, three premiums.$1 50 1 00 50

CELERY,

No. 17. Six specimens, three premiums.....$1 50 1 00 50

SQUASH.

No. 18. Marblehead, 3 specimens, three premiums.$1 50 1 00 50
No. 19. Hubbard, 3 specimens, three premiums...$1 50 1 00 50

TURNIP,

No. 20. Swede, Yellow, 6 specimens, three premiums $1 50 1 00 50
No. 21. Swede, White, 6 specimens, three premiums $1 50 1 00 50
No. 22. White Egg, 12 specimens, three premiums $1 50 1 00 50

BEET,

No. 23. Turnip, three premiums.....$1 50 1 00 50

CARROT,

No. 24. Intermediate, three premiums.....$1 50 1 00 50

LETTUCE,

No. 25. Six heads, three premiums.....$2 00 1 50 1 00

Thursday, April 12.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at* 3½ *o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS—BASKET.—

No. 26.	For the best round basket, on stand, not to exceed 15 inches in diameter, 4 premiums	$3 00	2 00	1 00	50

ZONALE GERANIUM,—IN BLOOM.—

No. 27.	Four plants, distinct in color, 4 premiums	$3 00	2 00	1 00	50

AZALEA INDICA,—IN BLOOM.—

No. 28.	Three plants, four premiums	$5 00	3 00	2 00	1 00
No. 29.	One plant, two premiums			3 00	2 00

BEGONIA,—IN BLOOM.—

No. 30.	One plant, four premiums	$3 00	2 00	1 00	50

CUT FLOWERS.—

No. 31.	Twenty vases, not to exceed 5 blooms or clusters in each, four premiums	$3 00	2 00	1 00	50

HYACINTHS.—

No. 32.	Twelve pots, in not less than 6 varieties, three premiums	$4 00	3 00	2 00	

NARCISSUS,—DISPLAY.—

No. 33.	Three premiums	$4 00	3 00	2 00	

TULIPS.—

No. 34.	Six pots, in not less than 3 varieties, three premiums	$4 00	3 00	2 00	

APPLE.—

No. 35. Any variety, named, gratuity.

PEAR.—

No. 36. Any variety, named, gratuity.

VEGETABLE.—

HORSE RADISH,

No. 37.	Three premiums	$1 50	1 00	50

PARSNEP,

No. 38.	(Student), three premiums	1 50	1 00	50
No. 39.	(Hollow Crown), three premiums	1 50	1 00	50

RADISH,

No. 40.	Two bunches (6 in each bunch), three premiums	1 50	1 00	50

SALSIFY,

No. 41.	Three premiums	1 50	1 00	50

LETTUCE,

No. 42.	Six heads, four premiums	2 00	1 50	1 00	50

RHUBARB,

No. 43.	Same variety, three premiums	1 50	1 00	50

DANDELION (cultivated),

No. 44.	One half-peck, three premiums	1 50	1 00	50

SPINACH,

No. 45.	One half-peck, three premiums	1 50	1 00	50

Thursday, May 17.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

PANSY,—NO DUPLICATES.—

No. 46. One stand, one spike in a vial, four premiums... .....$3 00 2 00 1 00 50

—IN BLOOM.—

No. 47. Six plants, distinct in color, exhibited in pots, four premiums.$3 00 2 00 1 00 50

BOUQUET,—HAND.—

No. 48. Not to exceed 9 inches in diameter, four premiums.....$3 00 2 00 1 00 50

BULBS AND TUBERS—(HARDY)—OPEN CULTURE.—

No. 49. Display, in vases (no duplicates), four premiums.....$3 00 2 00 1 00 50

HYACINTH,—OPEN CULTURE.—

No. 50. Display, in vases (no duplicates), four premiums.....$3 00 2 00 1 00 50

PELARGONIUM—(FANCY AND SHOW)—IN BLOOM.—

No. 51. Four plants, of distinct varieties, four premiums.....$3 00 2 00 1 00 50

TULIP,—OPEN CULTURE.—

No. 52. Display in vases (no duplicates), four premiums.....$3 00 2 00 1 00 50

VEGETABLE.—

RHUBARB,

No. 53.	Linnæus, three premiums	$1 50	1 00	50
No. 54.	Victoria, three premiums	$1 50	1 00	50

ASPARAGUS,

No. 55.	Two bunches, three premiums	$1 50	1 00	50

DANDELION,

No. 56.	Cultivated, half-peck, three premiums	$1 50	1 00	50

SPINACH,

No. 57.	Half-peck, three premiums	$1 50	1 00	50

Thursday, May 24.

CUT FLOWERS.—

No. 58.	Stand, four premiums	$3 00	2 00	1 00	50
No. 59.	Basket, oval, with handle on stand, not to exceed 15 in., four premiums	$3 00	2 00	1 00	50

AZALEA—(MOLLIS).—

No. 60.	For the best display in vases, four premiums	$3 00	2 00	1 00	50

VEGETABLE.—

RADISH,

No. 61.	Three premiums	$1 50	1 00	50

ONION (bunched),

No. 62.	Two bunches, six in each bunch, three premiums	$1 50	1 00	50

Thursday, May 31.

FUCHSIA,—DISTINCT VARIETIES.—

No. 63.	Four plants in bloom, four premiums	$3 00	2 00	1 00	50

RHODODENDRON.—

No. 64.	Best display, in vases, four premiums	$3 00	2 00	1 00	50

AZALEA—GHENT.—

No. 65.	Best display, in vases, four premiums	$3 00	2 00	1 00	50
No. 66.	Cut flowers, from hardy plants and shrubs, display in vases (no duplicates), four premiums	$3 00	2 00	1 00	50

VEGETABLE.—

ASPARAGUS,

No. 67.	Two bunches, three premiums	$1 50	1 00		50

CUCUMBER,

No. 68.	Three specimens, three premiums	$1 50	1 00		50

Thursday, June 7.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at* 3½ *o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS.—DISTINCT.—

No. 69.	ONE STAND—(the varieties of any species must not exceed three), four premiums	$3 00	2 00	1 00	50

No. 70.	One Vase.—the specimens not to be tied or wired, three premiums		2 00	1 00	50

IRIS.—

No. 71.	Display, in vases (no duplicates), four premiums	$3 00	2 00	1 00	50

CLEMATIS.—

No. 72.	Display, in vases, 2 premiums			$2 00	1 00

VEGETABLE.—

Spinach,

No. 73.	Half-peck, three premiums	$1 50		1 00	50

Thursday, June 14.

HYDRANGEA,—one plant, in bloom.—

No. 74.	Hortensis, three premiums	$2 00		1 00	50
No. 75.	Otaksa, three premiums		2 00	1 00	50
No. 76.	Thomas Hogg, three premiums		2 00	1 00	50

BASKET.—Oval, flat, not to exceed 18 inches.

No. 77.	Amateur.—four premiums	$3 00	2 00	1 00	50
No. 78.	Florist,—four premiums	3 00	2 00	1 00	50

BOUQUET—PARLOR.—

No. 79.	Amateur.—four premiums	$3 00	2 00	1 00	50
No. 80.	Florist,—four premiums	3 00	2 00	1 00	50

STRAWBERRY.—

No. 81. Any variety, gratuity.

VEGETABLE.—

PEA,

No. 82.	One half-peck, four premiums...	$2 00	1 50	1 00	50

LETTUCE,

No. 83.	Six heads, three premiums.....		1 50	1 00	50

BEET,

No. 84.	Early, 12 specimens, three premiums		1 50	1 00	50

Thursday, June 21.

ROSES.—

[TO BE SHOWN IN THE BOXES OR VASES OF THE SOCIETY.]

No. 85.	For the best 12 blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums.....	$4 00	3 00	2 00	1 00
No. 86.	For the best 6 blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums.....	3 00	2 00	1 00	50
No. 87.	For the best stand of Roses, four premiums.....	3 00	2 00	1 00	50
No. 88.	MOSS ROSES. Best display, four premiums.....	3 00	2 00	1 00	50
No. 89.	For the best basket or dish of Roses, three premiums.....		2 00	1 00	50

Digitalis. (FOXGLOVE).

No. 90.	Display, three premiums.....		$2 00	1 00	50

Campanula Media. (CANTERBURY BELL).

No. 91.	Display, three premiums.....		$2 00	1 00	50

Dianthus Barbatus. (SWEET WILLIAM).

No. 92.	Display (no duplicates), four premiums	$3 00	2 00	1 00	50

STRAWBERRY.—

No. 93.	Bidwell, 24 berries, flat, 3 premiums		$1 50	1 00	50
No. 94.	Charles Downing, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 95.	Crescent, 24 berries, flat, three premiums		1 50	1 00	50
No. 96.	Cumberland Triumph, 24 berries, flat, three premiums		1 50	1 00	50
No. 97.	Sharpless, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 98.	Wilson, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 99.	Any other variety, not scheduled, 24 berries, flat, gratuity.				

VEGETABLE.—

PEA,

No. 100.	Any variety, named, one-half peck, three premiums		$2 00	1 50	1 00

Thursday, June 28.

LILIUM.—

No. 101.	Display, in vases (no duplicates), four premiums	$3 00	2 00	1 00	50

CUT FLOWERS.—

No. 102.	For the best arranged stand, without restriction as to foliage, varieties, or quantity of flowers, four premiums	$3 00	2 00	1 00	50

PÆONIA.—

No. 103.	Display, in vases (no duplicates), four premiums	$3 00	2 00	1 00	50

HARDY FLOWERS.—Biennials and Perennials.—

No. 104.	Display, in vases (no duplicates), four premiums	$3 00	2 00	1 00	50

STRAWBERRY.—

No. 105.	Jewell, 24 berries, flat, three premiums		$1 50	1 00	50
No. 106.	Bidwell, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 107.	Jersey Queen, 24 berries, flat, three premiums		1 50	1 00	50
No. 108.	Jucunda, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 109.	Manchester, 24 berries, flat, three premiums		1 50	1 00	50
No. 110.	Miner, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 111.	Monarch, 24 berries, three premiums		1 50	1 00	50
No. 112.	Triomphe de Gand, 24 berries, flat, three premiums		1 50	1 00	50
No. 113.	Any other variety, not scheduled, 24 berries, flat, gratuity.				

VEGETABLE.—

BEAN (Snap),

No. 114. Green Pod, one-half peck, three premiums.....$2 00 1 50 1 00

PEA,

No. 115. McLean's Advancer, one-half peck, three premiums.....$2 00 1 50 1 00

BEET,

No. 116. Turnip-rooted, 12 specimens, three premiums.....$1 50 1 00 50

Thursday, July 5.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at 3½ o'clock, P.M., to hear motions, determine appeals, and act upon business properly submitted.*

ZONALE GERANIUM.—

No. 117. For the best stand, 1 truss in a vial, four premiums.....$3 00 2 00 1 00 50

CUT FLOWERS.—(NAMED).—

No. 118. Twenty vases, not to exceed 5 blooms or clusters in each, four premiums.....$3 00 2 00 1 00 50

No. 119. LILIUM CANDIDUM. 12 spikes, four premiums..... 3 00 2 00 1 00 50

RASPBERRY.—(RED).—

No. 120. Brandywine, one quart, three premiums.....$1 50 1 00 50

No. 121. Hansell, one quart, three premiums.... 1 50 1 00 50

No. 122. Turner, one quart, three premiums ... 1 50 1 00 50

RASPBERRY.—Blackcap.—

No. 123.	Davison, one quart, two premiums....		$1 00	50
No. 124.	Doolittle, one quart, two premiums....		1 00	50
No. 125.	Souhegan, one quart, two premiums...		1 00	50

CHERRY.—

No. 126.	Any variety, named, one quart, four premiums.....	$2 00	1 50	1 00	50

CURRANT.—

No. 127.	Red Dutch, 24 bunches, three premiums	$1 50	1 00		50
No. 128.	White Grape, 24 bunches, three premiums	1 50	1 00		50
No. 129.	White Dutch, 24 bunches, three premiums	1 50	1 00		50
No. 130.	Fay's Prolific, 24 bunches, three premiums.....	1 50	1 00		50

STRAWBERRY,—

No. 131. Any variety, 24 berries, flat, gratuity.

VEGETABLE.—

Pea,

No. 132.	Yorkshire Hero, three premiums	$2 00	1 50	1 00
No. 133.	Champion of England, three premiums.	2 00	1 50	1 00

No. 134. Any other variety, not scheduled, gratuity.

Cabbage,

No. 135. Three specimens, gratuity.

Thursday, July 12.

GLOXINIA.—IN POTS.—

No. 136.	Six varieties, in bloom, four premiums	$3 00	2 00	1 00	50

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 137.	Stand, four premiums	$3 00	2 00	1 00	50

HOLLYHOCK.—DOUBLE.—

No. 138.	For the best 20 blooms, in vases, four premiums	$3 00	2 00	1 00	50

IRIS KÆMPFERI.—

No. 139.	Display, in vases (no duplicates), four premiums	$3 00	2 00	1 00	50

CURRANT.—

No. 140.	Fay's Prolific, 24 bunches, two premiums			$1 00	50
No. 141.	Versaillaise, 24 bunches, four premiums	2 00	1 50	1 00	50
No. 142.	Red Dutch, 24 bunches, four premiums	2 00	1 50	1 00	50
No. 143.	White Dutch, 24 bunches, three premiums		1 50	1 00	50
No. 144.	White Grape, 24 bunches, three premiums		1 50	1 00	50
No. 145.	Any other variety, not scheduled, gratuity.				

RASPBERRY.—

No. 146.	Brincklé's Orange, one quart, three premiums	$1 50		1 00	50
No. 147.	Cuthbert, one quart, three premiums	1 50		1 00	50
No. 148.	Hornét, one quart, three premiums	1 50		1 00	50

No. 149.	Hudson River Antwerp, one quart, three premiums	1 50	1 00	50
No. 150.	Northumberland, one quart, three premiums	1 50	1 00	50
No. 151.	Marlboro', one quart, three premiums	1 50	1 00	50
No. 152.	Any other variety, not scheduled, gratuity.			

BLACKCAP,

No. 153.	Gregg, one quart, two premiums		1 00	50
No. 154.	Mammoth Cluster, one quart, two premiums		1 00	50
No. 155.	Any other variety, not scheduled, gratuity.			

VEGETABLE.—

POTATO,

No. 156.	Any named variety, 12 specimens, three premiums	$2 00	1 50	1 00

BEAN,

No. 157.	Wax—(snap), three premiums	2 00	1 50	1 00

Thursday, July 19.

FLOWERS,—SEEDLINGS OF 1888.

No. 158.	Stand, four premiums	$3 00	2 00	1 00	50

BASKET.—Round, flat, not to exceed 18 in. in diameter.

No. 159.	AMATEUR—four premiums	$3 00	2 00	1 00	50
No. 160.	FLORIST—four premiums	3 00	2 00	1 00	50

PETUNIA,—One spray in each vial.

No. 161.	Stand, four premiums	$3 00	2 00	1 00	50

RASPBERRY.—

No. 162. Any variety, one quart, gratuity.

VEGETABLE.—

CABBAGE.

No. 163. Brunswick, three specimens, three premiums $1 50 1 00 50

No. 164. Henderson, three premiums 1 50 1 00 50

CORN.

No. 165. (Sweet), any named variety, three premiums $2 00 1 50 1 00

SQUASH.

No. 166. Three Summer Crookneck, two premiums $1 00 50

No. 167. Three Scallop, two premiums 1 00 50

TOMATO.

No. 168. Any named variety, three premiums.. $2 00 1 50 1 00

Thursday, July 26.

CUT FLOWERS.—GROWN FROM SEED. *By Exhibitor.*

No. 169. Stand of distinct varieties, four premiums $3 00 2 00 1 00 50

BOUQUET,—PARLOR.—Not to exceed 15 in. from base to tip.

No. 170. AMATEUR.—four premiums..... $3 00 2 00 1 00 50

No. 171. FLORIST.—four premiums..... 3 00 2 00 1 00 50

PHLOX DRUMMONDI.—

No. 172. Stand of best varieties, four premiums $3 00 2 00 1 00 50

VERBENA.—Best Varieties.—

No. 173.	Stand, one truss in a vial, four premiums	$3 00	2 00	1 00	50

SWEET PEA.—

No. 174.	Stand, not exceeding twelve stems in a vial, four premiums	$3 00	2 00	1 00	50

PEAR.—

No. 175.	D'Eté, three premiums	$1 50	1 00		50

GOOSEBERRY.—

No. 176. One quart of any named variety, gratuity.

BLACKBERRY.—

No. 177.	Agawam, one quart, two premiums			$1 00	50
No. 178.	Early Harvest, one quart, two premiums.			1 00	50

VEGETABLE.—

Bean,

No. 179	Dwarf Horticultural (shell), half-peck, three premiums	$1 50	1 00		50
No. 180.	Any other (named) variety, three premiums	1 50	1 00		50

Corn,

No. 181.	(Sweet), three premiums	1 50	1 00		50

Potato,—12 specimens.

No. 182.	Hebron, three premiums	1 50	1 00		50
No. 183.	Maine, three premiums	1 50	1 00		50
No. 184.	Pearl of Savoy, three premiums	1 50	1 00		50
No. 185.	Potentate, three premiums	1 50	1 00		50
No. 186.	Rose, three premiums	1 50	1 00		50
No. 187.	Sunrise, three premiums	1 50	1 00		50

Thursday, August 2.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

HOLLYHOCK.—

No. 188.	For the best 20 blooms, in vases, four premiums	$3 00	2 00	1 00	50

CUT FLOWERS,—DISTINCT VARIETIES, NAMED.—

No. 189.	Twenty blooms, or clusters, in vases, four premiums	$3 00	2 00	1 00	50

GLADIOLUS.—

No. 190.	Twenty vases, one spike each, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 191. Any variety, gratuity.

PEAR.—

No. 192. Any variety, not scheduled, gratuity.

BLACKBERRY.—

No. 193.	Kittatinny, one quart, two premiums	$1 00	50
No. 194.	Snyder, one quart, two premiums	1 00	50
No. 195.	Wachusett, one quart, two premiums	1 00	50
No. 196.	Any other variety, not scheduled, gratuity.		

VEGETABLE.—

CORN,

No. 197.	Crosby, two premiums	$1 50	1 00

CUCUMBER,

No. 198.	Three specimens, two premiums	1 00	50

TOMATO,

No. 199.	Acme, three premiums	1 50	1 00	50

Thursday, Aug. 9.

ANTIRRHINUM,—Snap Dragon.—

No. 200	Stand, best varieties, four premiums	$3 00	2 00	1 00	50

GERMAN STOCKS,—best varieties.—

No. 201.	Stand, four premiums	$3 00	2 00	1 00	50

BEGONIA—(Tuberous-rooted),—in bloom.—

No. 202.	Best six plants, in pots, four premiums	$3 00	2 00	1 00	50

PINK—(all kinds).—

No. 203.	Stand, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 204.	Sweet Bough, three premiums		$1 50	1 00	50
No. 205.	Astrachan (Red), four premiums	2 00	1 50	1 00	50
No. 206.	Tetofsky, three premiums		1 50	1 00	50

PEAR.—

No. 207.	Giffard, four premiums	$2 00	1 50	1 00	50

PEACH.—

No. 208. Any, gratuity.

VEGETABLE.—

Bean (shell),

No. 209.	Concord, half-peck, in pods, three premiums		$1 50	1 00	50

Tomato,

No. 210.	Livingston's Perfection, three premiums		1 50	1 00	50

Thursday, August 16.

CUT FLOWERS.—

No. 211.	Stand, four premiums	$3 00	2 00	1 00	50

GERANIUM.—

No. 212.	Stand, one truss in each vial, four premiums	$3 00	2 00	1 00	50

GLADIOLUS—(DISTINCT VARIETIES.)—NAMED.

No. 213.	Twenty vases, 1 spike in each, four premiums	$4 00	3 00	2 00	1 00

SALPIGLOSSIS.—

No. 214.	For the best stand, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 215.	Oldenburg, four premiums	$2 00	1 50	1 00	50
No. 216.	Any variety, not scheduled, gratuity.				

APRICOT.—

No. 217.	Any variety, gratuity			$1 00	50

PEAR.—

No. 218.	Clapp, five premiums	$3 00	2 00	1 50	1 00	50

PEACH.—

No. 219.	Alexander, three premiums	$1 50	1 00	50	
No. 220.	Beatrice, three premiums	1 50	1 00	50	
No. 221.	Cole's Early Red, two premiums	1 00	50		
No. 222.	Rivers, three premiums	1 50	1 00	50	

VEGETABLE.—

SQUASH,

No. 223.	Marrow, 3 specimens, three premiums	$1 50	1 00	50	
No. 224.	Turban, 3 specimens, three premiums	2 00	1 50	1 00	

TOMATO,

No. 225.	Paragon, three premiums		1 50	1 00	50

CORN,

No. 226.	(Sweet), 12 ears, of not less than 12 rows, three premiums		1 50	1 00	50

Thursday, August 23.

ASTER.—

No. 227.	Rose, 20 vials, 1 bloom in each, three premiums		$2 00	1 00	50
No. 228.	Hedgehog, 20 vials, 1 bloom in each, three premiums		2 00	1 00	50
No. 229.	Cocardeau (Crown), 20 vials, 1 bloom in each, three premiums		2 00	1 00	50
No. 230.	Victoria, 20 vials, 1 bloom in each, three premiums		2 00	1 00	50
No. 231.	POMPON, stand, one spray of not more than 6 blooms in each vial, four premiums	3 00	2 00	1 00	50
No. 232.	TRUFFAUT, — PÆONY-FLOWERED, stand, 3 blooms in each vial, four premiums	3 00	2 00	1 00	50

GLADIOLUS—(NO DUPLICATES).

No. 233.	Twenty vases, one spike in each, four premiums	$3 00	2 00	1 00	50

PHLOX—PERENNIAL.—

No. 234.	Display, in vases (no duplicates), four premiums	$3 00	2 00	1 00	50

CLEMATIS.—

No. 235.	Display, in vases, two premiums			$2 00	1 00

APPLE.—

No. 236.	Somerset, three premiums		$1 50	1 00	50
No. 237.	Williams, four premiums.....	2 00	1 50	1 00	50

PEAR.—

No. 238.	Rostiezer, three premiums.....		$1 50	1 00	50
No. 239.	Tyson, three premiums		1 50	1 00	50

PEACH.—

No. 240.	Hale, three premiums.....		$1 50	1 00	50

VEGETABLE.—

BEAN—(HALF-PECK IN POD.)—

No. 241.	Horticultural (pole), three premiums..		$1 50	1 00	50
No. 242.	Goddard, three premiums		1 50	1 00	50

Thursday, August 30.

SCABIOSA.—

No. 243.	Stand, not exceeding six flowers in a vial, best variety, four premiums.....	$3 00	2 00	1 00	50

ZINNIA.—

No. 244.	Stand, at least twelve varieties, one flower in a vial, four premiums	$3 00	2 00	1 00	50

LILIUM SPECIOSUM.—

No. 245.	Best display, in vases, four premiums	$3 00	2 00	1 00	50

MARIGOLD.—

No. 246.	Stand, four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 247. Any variety, not scheduled, gratuity.

APPLE—(Crab).—

No. 248.	Transcendent, 24 specimens, three premiums	$1 50	1 00	50

NECTARINE.—

No. 249.	Any variety, two premiums		$1 00	50

PEAR.—

No. 250.	Assomption, three premiums	$1 50	1 00	50
No. 251.	Petite Marguerite, three premiums	1 50	1 00	50

PEACH.—

No. 252.	Cooledge, two premiums		$1 00	50
No. 253.	George IV., two premiums		1 00	50
No. 254.	Foster, two premiums		1 00	50
No. 255.	Richmond, two premiums		1 00	50

PLUM.—

No. 256.	Bradshaw, three premiums	$1 50	1 00	50
No. 257.	McLaughlin, three premiums	1 50	1 00	50

VEGETABLE.—

Lima Beans,

No. 258.	Large, half-peck, three premiums	$1 50	1 00	50

Cauliflower,

No. 259.	Three specimens, three premiums	2 00	1 50	1 00

Tomato,

No. 260.	Any variety, not scheduled, three premiums	1 50	1 00	50

Thursday, September 6.

☞ *The* Committee on Arrangements and Exhibitions *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS.—

No. 261.	Stand, four premiums	$3 00	2 00	1 00	50

BOUQUET—(PARLOR).—

No. 262.	Amateur,—four premiums	$3 00	2 00	1 00	50
No. 263.	Florist,—four premiums	3 00	2 00	1 00	50

DAHLIA.—

Large-Flowered,

No. 264.	Twenty vases, one spray in each, four premiums	$3 00	2 00	1 00	50

Pompon,

No. 265.	Twenty vases, one spray in each, four premiums	3 00	2 00	1 00	50

Single,

No. 266.	Twenty vases, one spray in each, three premiums		1 50	1 00	50

NASTURTIUM AND TROPÆOLUM.—

No. 267.	Stand, best varieties, not more than twelve blooms in each bottle, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 268.	Worcester Spy, three premiums		$1 50	1 00	50
No. 269.	Any other variety, not scheduled, gratuity.				

PEAR.—

No. 270.	Ansault, three premiums		$1 50	1 00	50
No. 271.	Earle's Bergamot, three premiums		1 50	1 00	50
No. 272.	St. Ghislain, four premiums	2 00	1 50	1 00	50

PEACH.—

No. 273.	Crawford (Early), two premiums.....		$1 00	50
No. 274.	Oldmixon, two premiums..... ..		1 00	50

PLUM.—

No. 275.	Imperial Gage, three premiums	$1 50	1 00	50
No. 276.	Washington, three premiums.....	1 50	1 00	50
No. 277.	Gen. Hand, three premiums.....	1 50	1 00	50
No. 278.	Victoria, three premiums	1 50	1 00	50

VEGETABLE.—

CUCUMBER,

No. 279.	Half-peck (for pickles), three premiums.	$1 50	1 00	50

CORN,

No. 280.	(Sweet), 12 ears, of not less than 12 rows, three premiums.....	1 50	1 00	50

PEPPER.—12 specimens.

No. 281.	Squash, two premiums.....		$1 00	50
No. 282.	Large Bell, two premiums....		1 00	50
No. 283.	Mammoth, two premiums....		1 00	50

Thursday, September 13.

CUT FLOWERS.—DISTINCT VARIETIES.

No. 284.	Twenty vases, one bloom or cluster in each, four premiums.	$3 00	2 00	1 00	50

GERANIUM,—OPEN CULTURE.—One truss in a vial.

No. 285.	Stand, four premiums.....	$3 00	2 00	1 00	50

PANSY,—WITH FOLIAGE.—

No. 286.	Stand, one spike in each bottle, four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 287.	Golden Sweet, three premiums	$1 50	1 00	50	
No. 288.	Garden Royal, three premiums	1 50	1 00	50	

PEAR.—

No. 289.	Bartlett, five premiums	$3 00	2 00	1 50	1 00	50
No. 290.	Lucrative, three premiums	1 50	1 00	50	
No. 291.	Pratt, three premiums	1 50	1 00	50	

PLUM.—

No. 292.	Jefferson, three premiums	$1 50	1 00	50	
No. 293.	Lombard, three premiums	1 50	1 00	50	
No. 294.	Munroe, three premiums	1 50	1 00	50	
No. 295.	Quackenboss, three premiums	1 50	1 00	50	

PEACH.—

No. 296.	Crawford (Early), two premiums	$1 00	50		
No. 297.	Oldmixon, two premiums	1 00	50		

GRAPE.—

No. 298.	Moore's Early, three clusters, three premiums	$1 50	1 00	50	
No. 299.	Grown under glass, three clusters, three premiums	3 00	2 00	1 00	

MELON.—

No. 300.	Yellow Flesh, three specimens, two premiums	$1 00	50		
No. 301.	Green Flesh, three specimens, two premiums	1 00	50		

WATER.

No. 302.	Two specimens, two premiums	1 00	50		

VEGETABLE.—

CABBAGE.

No. 303.	Brunswick, 3 specimens, three premiums	$1 50	1 00	50	

Thursday, September 20.

ASTER.—

No. 304.	Forty vases, four premiums....	$3 00	2 00	1 00	50

CUT FLOWERS—(BASKET).—

Not to exceed fifteen inches, oval, with handle, on stand.

No. 305.	AMATEUR, four premiums.....	$3 00	2 00	1 00	50
No. 306.	FLORIST, four premiums.....	3 00	2 00	1 00	50

VERBENA.—

No. 307.	Stand, four premiums.....	$3 00	2 00	1 00	50

CUT FLOWERS.—STAND.

No. 308.	Four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 309.	Gravenstein, five premiums.....	$3 00	2 00	1 50	1 00	50
No. 310.	Porter, three premiums.....			1 50	1 00	50

APPLE.—CRAB.—

No. 311.	Hyslop, 24, two premiums.....				$1 00	50

PEAR.—

No. 312.	Durandeau, three premiums.....			$1 50	1 00	50
No. 313.	Paradis d'Automne, four premiums.....		2 00	1 50	1 00	50
No. 314.	Any other variety, not scheduled, gratuity.					

PEACH.—

No. 315.	Crawford (late), two premiums.....				$1 00	50
No. 316.	Stump the World, two premiums.....				1 00	50
No. 317.	Any other variety, not scheduled, gratuity.					
No. 318.	New Seedling, originated in Worcester County, three premiums....			1 50	1 00	50

PLUM.—

No. 319.	Coe's Golden Drop, three premiums	$1 50	1 00	50
No. 320.	Reine Claude de Bavay, three premiums	1 50	1 00	50

GRAPE.—

No. 321.	Brighton, three clusters, three premiums	$1 50	1 00	50
No. 322.	Lady, three clusters, three premiums	1 50	1 00	50
No. 323.	Lindley, three premiums	1 50	1 00	50
No. 324.	Massasoit, three clusters, three premiums	1 50	1 00	50
No. 325.	Worden, three clusters, three premiums	1 50	1 00	50

VEGETABLE.—

CARROT.

No. 326.	Any variety, three premiums	$1 50	1 00	50

EGG PLANT.

No. 327.	Three specimens, three premiums	2 00	1 00	50

CABBAGE.

No. 328.	Red, three specimens, three premiums	1 50	1 00	50
No. 329.	Savoy, three specimens, three premiums	1 50	1 00	50

CAULIFLOWER.

No. 330.	Three specimens, four premiums	2 00	1 50	1 00	50

Thursday, September 27.

CUT FLOWERS.—(BASKET.)—

Not to exceed fifteen in. in diameter, flat, oval.

No. 331.	AMATEUR.—four premiums	$3 00	2 00	1 00	50
No. 332.	FLORIST.—four premiums	3 00	2 00	1 00	50

CUT FLOWERS—(STAND).—

No. 333.	Four premiums.....	$3 00	2 00	1 00	50

GLADIOLUS.—

No. 334.	Best display, no duplicates, in vases, four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 335.	American Beauty, three premiums....		$1 50	1 00	50
No. 336.	Holden, three premiums		1 50	1 00	50
No. 337.	Lyscom, three premiums		1 50	1 00	50
No. 338.	McLellan, three premiums..		1 50	1 00	50
No. 339.	Mother, three premiums.....		1 50	1 00	50
No. 340.	Twenty Ounce, three premiums.....		1 50	1 00	50

PEAR.—

No. 341.	Buffum, two premiums.....				$1 00	50
No. 342.	Hardy, three premiums.....			1 50	1 00	50
No. 343.	Louise Bonne de Jersey, five premiums.....	3 00	2 00	1 50	1 00	50
No. 344.	Seckel, five premiums...	3 00	2 00	1 50	1 00	50
No. 345.	St. Michel Archange, two premiums...				1 00	50
No. 346.	Superfin, three premiums.....			1 50	1 00	50
No. 347.	Urbaniste, four premiums.....			1 50	1 00	50
No. 348.	Washington, three premiums.....			1 50	1 00	50

PEACH.—

No. 349. Any variety, gratuity.

GRAPE.—

No. 350.	Iona, three clusters, three premiums			$1 50	1 00	50
No. 351.	Concord, three clusters, four premiums.....		2 00	1 50	1 00	50
No. 352.	Delaware, four premiums.....		2 00	1 50	1 00	50
No. 353.	Pocklington, two premiums....				1 00	50
No. 354.	Niagara, two premiums.....				1 00	50
No. 355.	Salem, three premiums.....			1 50	1 00	50

No. 356.	Wilder, three clusters, three premiums.....		1 50	1 00	50
No. 357.	Any variety, not scheduled, gratuity.				

VEGETABLE.—

No. 358.	Collection, not exceeding 100 varieties, four premiums....	$8 00	6 00	4 00	2 00

Thursday, October 4.

☞ *The* Committee on Arrangements and Exhibitions *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS.—

No. 359.	Stand, four premiums.....	$3 00	2 00	1 00	50

FLOWERS.—

No. 360.	Hand Bouquet, not to exceed 9 in. in diameter, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 361.	Ladies' Sweet, two premiums.....			$1 00	50
No. 362.	Fameuse, three premiums		1 50	1 00	50
No 363.	Coggswell, two premiums.....			1 00	50
No. 364.	Hubbardston, four premiums...	2 00	1 50	1 00	50
No. 365.	Maiden's Blush, three premiums.		1 50	1 00	50
No. 366.	Washington Strawberry, two premiums....			1 00	50
No. 367.	Any other variety, not scheduled, gratuity.				

PEAR.—

No. 368.	Bosc, five premiums....	$3 00	2 00	1 50	1 00	50
No. 369.	Dr. Reeder, three premiums.....			1 50	1 00	50
No. 370.	Sheldon, five premiums.	3 00	2 00	1 50	1 00	50
No. 371.	Any other variety, not scheduled, gratuity.					

GRAPE,—OPEN CULTURE.—

No. 372.	Diana, three clusters, four premiums.....	$2 00		1 50	1 00	50
No. 373.	Any variety, three clusters, gratuity.					

QUINCE.—

No. 374.	Champion, three premiums....			$1 50	1 00	50
No. 375.	Orange, four premiums.....	3 00		2 00	1 50	1 00

VEGETABLE.—

POTATO,

No. 376.	Six varieties (named), 12 specimens of each, four premiums.	$3 00		2 00	1 50	1 00

SQUASH,

No. 377.	Hubbard, three specimens, three premiums.....			1 50	1 00	50
No. 378.	Marblehead, three premiums.....			1 50	1 00	50
No. 379.	Essex, Hybrid, three premiums			1 50	1 00	50

CELERY,

No. 380.	Six, three premiums....			2 00	1 00	50

Thursday, October 11.

CUT FLOWERS.—(BASKET).—

No. 381.	Fancy straw or chip not exceeding 12 in., four premiums ...	$3 00		2 00	1 00	50

APPLE.—

No. 382.	Tompkins King, four premiums	$2 00	1 50	1 00	50
No. 383.	Leicester Sweet, three premiums		1 50	1 00	50
No. 384.	Belleflower, three premiums		1 50	1 00	50
No. 385.	Sutton Beauty, three premiums.		1 50	1 00	50
No. 386.	Wealthy, two premiums			1 00	50
No. 387.	Any other variety (named), not scheduled, gratuity.				

PEAR.—

No. 388.	Dix, three premiums	$1 50	1 00		50
No. 389.	Marie Louise, three premiums	1 50	1 00		50
No. 390.	Onondaga, three premiums	1 50	1 00		50
No. 391.	Frederick Clapp, two premiums		1 00		50

VEGETABLE.—

No. 392.	Kohl Rabi, six specimens, three premiums	$1 50	1 00		50

Onion,

No. 393.	Red Globe—Half-peck, three premiums	1 50	1 00		50
No. 394.	Yellow Danvers—Half-peck, three premiums	1 50	1 00		50

Salsify,

No. 395.	Three premiums	1 50	1 00		50

Endive,

No. 396.	Six heads, three premiums	1 50	1 00		50

Thursday, October 18.

CUT FLOWERS.—

No. 397. In any form, gratuity.

APPLE.—

No. 398.	Tallman, three premiums		$1 50	1 00		50
No. 399.	Peck, three premiums		1 50	1 00		50
No. 400.	R. I. Greening, five premiums	3 00	2 00	1 50	1 00	50
No. 401.	Any other variety, not scheduled, gratuity.					

PEAR.—

No. 402.	Anjou, five premiums	$3 00	2 00	1 50	1 00	50
No. 403.	Diel, three premiums			1 50	1 00	50
No. 404.	Comice, five premiums	3 00	2 00	1 50	1 00	50
No. 405.	Mt. Vernon, two premiums				1 00	50

VEGETABLE.—

No. 406.	Butman Squash, three specimens, three premiums		$1 50	1 00		50
No. 407.	Brussel Sprouts, half-peck, three premiums		1 50	1 00		50

Thursday, October 25.

FERN.—(PARLOR).—

No. 408.	Best plant, three premiums		$2 00	1 00		50

PALM.—(PARLOR).—

No. 409.	Best plant, three premiums		$2 00	1 00		50

POT PLANTS—IN BLOOM.—

No. 410. Gratuity.

FOLIAGE PLANTS.—

No. 411. Gratuity.

APPLE.—

No. 412.	Baldwin, six premiums	$4 00	3 00	2 00	1 50	1 00	50
No. 413.	Canada Red (Old Nonesuch), three premiums				1 50	1 00	50
No. 414.	Northern Spy, five premiums		3 00	2 00	1 50	1 00	50
No. 415.	Roxbury Russet, four premiums.			2 00	1 50	1 00	50
No. 416.	Golden Russet of Mass., three premiums				1 50	1 00	50
No. 417.	Golden Russet, Sweet, two premiums					1 00	50
No. 418.	Golden Russet, three premiums.				1 50	1 00	50
No. 419.	Red Russet, three premiums...				1 50	1 00	50
No. 420.	Palmer, two premiums					1 00	50
No. 421.	Lemon Greening, two premiums					1 00	50

PEAR.—

No. 422.	Clairgeau, three premiums			$1 50	1 00	50
No. 423.	Langelier, three premiums			1 50	1 00	50
No. 424.	Dana's Hovey, three premiums			1 50	1 00	50
No. 425.	Angoulême, four premiums		2 00	1 50	1 00	50
No. 426.	Glou Morçeau, three premiums			1 50	1 00	50
No. 427.	Josephine de Malines, three premiums.			1 50	1 00	50
No. 428.	Lawrence, five premiums.	3 00	2 00	1 50	1 00	50
No. 429.	Winter Nelis, four premiums...		2 00	1 50	1 00	50

VEGETABLE.—

CELERIAC,

No. 430.	Six specimens, three premiums			$1 50	1 00	50

CELERY,

No. 431.	Four premiums	$4 00	3 00	2 00	1 00	

CHRYSANTHEMUM.

FIFTH SPECIAL EXHIBITION

ON

Wednesday, November 14th,

AND

Thursday, November 15th.

[N. B. All the specimens placed in competition must be from the best types.]

No. 1. For the best six Chinese, or large-flowered, in pots,—distinct named varieties, five premiums.....
$6 00 5 00 4 00 3 00 2 00

No. 2. For the best six Japanese, in pots, distinct named varieties, five premiums.....
$6 00 5 00 4 00 3 00 2 00

No. 3. For the best six Pompon, in pots, distinct named varieties, five premiums.....
$6 00 5 00 4 00 3 00 2 00

No. 4. For the best 3 plants, in pots, from Amateurs,—distinct (not named), four premiums.. . .....
$3 00 2 00 1 50 1 00

No. 5. For the best display, in pots, any variety, four premiums.....
$8 00 6 00 4 00 2 00

No. 6. For Specimen Plant, of any variety, four premiums..
$4 00 3 00 2 00 1 00

No. 7. For twelve Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums...
$4 00 3 00 2 00

No. 8. For six Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums $3 00 2 00 1 00

No. 9. For twelve Cut Blooms of Chinese, or large-flowered, named, with long stems and foliage, in vases, three premiums $4 00 3 00 2 00

No. 10. For six Cut Blooms of Chinese, or large-flowered, named, with long stems and foliage, in vases, three premiums $3 00 2 00 1 00

No. 11. For twenty-four sprays, Chinese or Japanese, named, not less than twelve varieties, in vases, four premiums $5 00 4 00 3 00 2 00

No. 12. For twenty-four sprays Pompons, named, not less than twelve varieties, in vases, three premiums $3 00 2 00 1 00

The sum of Sixteen Dollars may be awarded in gratuities for meritorious exhibits.

☞ This Exhibition will be open to the public from 2 P. M. until 9 P. M. Wednesday, and from 10 A. M. until 9 P. M. Thursday.

ADMISSION 10 CENTS.

N. B. All articles intended for this Special Exhibition, must be in the Hall, and ready for inspection by the Judge by 12 o'clock M., precisely, of the first day of the Exhibition.

By authority of the

COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS.

Attest:

EDWARD WINSLOW LINCOLN,

Secretary.

OFFICERS AND COMMITTEES
OF THE
WORCESTER COUNTY HORTICULTURAL SOCIETY,
FOR THE YEAR 1887-8.

PRESIDENT:

FRANCIS H. DEWEY, of Worcester.

VICE-PRESIDENTS:

STEPHEN SALISBURY, of Worcester; HENRY L. PARKER, of Worcester; GEORGE E. FRANCIS, of Worcester.

SECRETARY:

EDWARD WINSLOW LINCOLN, of Worcester.

LIBRARIAN AND TREASURER:

CHARLES E. BROOKS, of Worcester.

TRUSTEES (BY ELECTION):

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O. B. Wyman,	Shrewsbury.	Newell Wood,	Millbury.
Charles E. Parker,	Holden.	David L. Fiske,	Grafton.
Frederick A. Blake,	Rochdale.	Henry B. Watts,	Leicester.
James F. Allen,	Worcester.	J. Henry Hill,	Worcester.
Henry Woodward,	"	James Draper,	"
William T. Merrifield,	"	F. M. Marble,	"
William H. Earle,	"	William W. Cook,	"
H. M. Quimby,	"	Calvin L. Hartshorn,	"
Samuel Flagg,	"	Joseph Lovell,	"
Frank J. Kinney,	"	Frederic G. Stiles,	"
John C. Newton,	"	Edwin Morse,	"
Emory Banister,	"	Hermann F. A. Lange,	"
John D. Lovell,	"	John Midgley,	"
George F. Hoar,	"	S. H. Record,	"
George Calvin Rice,	"	Adin A. Hixon,	"
O. B. Hadwen,	"	Simon E. Fisher,	"
William Eames,	"	John L. Peters,	"
Sylvanus Sears,	"	Mrs. Daniel Tainter,	"
Henry Phelps,	"	Mrs. John H. Coes,	"
Thomas A. Dawson,	"	Mrs. T. L. Nelson,	"
Charles Greenwood,	"	Mrs. Adin A. Hixon,	"
Joseph W. Powers,	"	Mrs. Thomas Ward,	"

STANDING COMMITTEES.

ON FINANCE:

Edward W. Lincoln, 1888. Nathaniel Paine, 1889. George E. Francis, 1890.

ON LIBRARY AND PUBLICATION:

Edward W. Lincoln, Charles E. Brooks, George E. Francis.

ON NOMENCLATURE:

James F. Allen, George E. Francis, Hermann F. A. Lange, O. B. Hadwen, James Draper, F. M. Marble, Charles Greenwood.

ON ARRANGEMENTS AND EXHIBITIONS:

James Draper, *Chairman*,
Newell Wood, William W. Cook, Charles E. Parker, William H. Earle, Charles E. Brooks, Calvin L. Hartshorn, Hermann F. A. Lange, O. B. Hadwen, Adin A. Hixon, Charles Greenwood, F. M. Marble, O. B. Wyman, H. B. Watts, J. L. Peters, George C. Rice, with *President* Dewey, and *Secretary* Lincoln.

AUDITORS.

Emory Banister, Henry L. Parker.

JUDGES.

ON FLOWERS, PLANTS, ETC.: Adin A. Hixon.

ON FRUITS, ETC.: James Draper.

ON VEGETABLES, ETC.: Charles Greenwood.

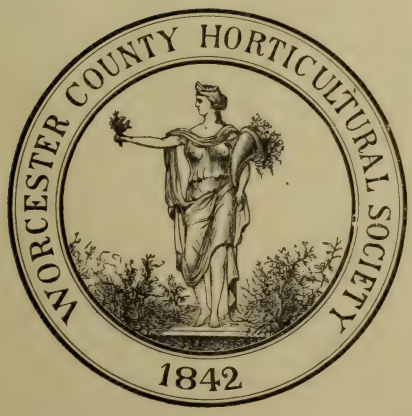
TRANSACTIONS

OF THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY,

A. D. 1889.



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1889.

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WORCESTER COUNTY
HORTICULTURAL SOCIETY.
A. D. 1889.

ANNUAL REPORT OF THE SECRETARY.

To the Members of the

WORCESTER COUNTY HORTICULTURAL SOCIETY:

WHAT the Society has been able to accomplish, during the past official year, in its appointed, peculiar province, will be set forth, with more or less distinctness of outline, elsewhere in this Report. Otherwise,—it is possible to congratulate you upon an average measure of success in securing money, wherewith to defray legitimate expenses and meet the levy of invidious taxation. But there are improvements imperatively necessary to our Hall that ought not to be deferred longer. The worst of it all is, that by so much the better we make the actual value of our building, by so much wider do we expand the vision, or fancy, of the Assessors! Yet the wall in the rear must be carried out flush with the line of the Passage-Way, if we would have the platform in the Hall of Pomona even comfortable; or wish to protect ourselves from continual encroachment, with ultimate possibility of serious damage. The upper story should be entirely remodelled by alteration and enlargement of the Hall of Ceres, or otherwise, as a sound discretion shall elect: so that any party may commence and finish its evening of social pleasure under one and the same roof. Our ground location is admirable; thanks to the sagacity of our Founders who, if they builded wiser than they knew, at least had the courage to build! Our halls of Flora and Pomona are of easy access, which is not quite

as true of the hall of Ceres. In our case, as in that of the fabled aspirant for distinction, it may be safely averred that there is plenty of spare room at the top. Let us then make the most of it! Let us bring it into actual daily use and occupation; simultaneously remedying some evils that are inevitable in the present condition. The Finance Committee doubt not that the beauty and symmetry of our several halls can be retained, while materially increasing their attractiveness and value as a source of income. It cannot be very long, in the nature of things, before something will have to be done; then possibly to less advantage or after the alienation of steady and profitable patronage.

It may be proper to add that while the Finance Committee do not reproach themselves with or because of the appearance of the front, exterior wall, neither do they cherish undue pride on its account. How long before it will become positively discreditable to the Society? if it falls much short of that now.

A Society is incorporated, by the General Court of Massachusetts, for the explicit and declared purpose of advancing the Science and encouraging and improving the Practice of Horticulture. It is no violent presumption, arguing from its honorable membership, that the Society has kept that aim steadily in view. Premiums have been offered, and gratuities bestowed without intermission, and in almost a profusion of graciousness, throughout its legal existence and down to the present day. Is it untimely, or at all out of place, to inquire whether there is not peril of falling into a rut wherefrom there shall be no extrication? Is it not possible that a Society, which puts forth as the ostensible reason for its existence, that it determines annually which of a dozen lots of Baldwin Apples, or Bartlett Pears, manifests points of superiority, may simply cumber the ground? Is not Progression an imperative law of nature? Is not immobility the equivalent of stagnation? wherefrom are in inevitable evolution, dissolution and decay. How many years does it require to ascertain the possibilities of a new variety;—if a fruit,—its hardiness and fecundity, and whether it may be especially subject to attack from insect enemies! How numerous generations must grow, develop, and exhibit specimens before a final decision shall

be reached that this or that Apple or Pear is worthy of encouragement; is fair to the eye, luscious to the taste, nor exceptionally difficult to cultivate! When those points have been decided once,—why should there be motions in arrest of judgment, or appeals therefrom? But yet,—what else, or in what manner different,—is our official action as a Society? In the matter of size and weight—say of the Bartlett Pear, since the famous contest between Butman, Ripley, and Stebbins,—what has repaid our efforts! Has there been a single step in advance? Is there not even discouraging proof of retrogression? Whether advance or recession—what do we, in recognition of either, but plod along in the same old way,—offering a premium for the best of the year to come! Do we stop to inquire why each successive step is not surely forward? Do we spend more than a moment in thought, to try and explain, as the American Humorist tersely put his apt conundrum, "Why are these things thus!" The Exhibition passes,—and there is an end. The morning newspaper makes record of the display and publishes sharp note of its least latent inferiority. What has the collective Society,—what have the associate Members themselves,—learned from the costly and laborious object-teaching! What lessons has that teaching imparted to the community that could not have been deduced at less trouble to all concerned, and for not much greater expense, from an inspection of the kerb-stone display by any of a half-dozen hucksters along Main Street? Beyond the memory of any man now living the Bartlett Pear had been decided worthy of general cultivation. As far back as the origin of the present generation your own Exhibitions settled, by a thorough competitive test, to what extreme its bulk could be stimulated. You have developed nothing better, subsequently,—no specimens of equal size. Does this vain repetition advance the science, or encourage and improve the practice of Horticulture? This Society might reply, like all others similarly inclined and actually misguided, that it puts money in their purse! But so, for a while, would any other form of prostitution!

Is it not well worth our while; and has not the time come, now that the dawn of our Fiftieth Anniversary begins to tinge the

horizon; to indulge in introspection, and to assure ourselves, by such thorough self-examination, whether we are securing the utmost possible benefit from our industry and investment! It is no easy matter to prefer the strait and narrow way. Our immediate self denial will enure to the benefit of posterity,—you may assert. Conceded! but still you can only avoid;—not answer the blunt retort,—what has posterity done for us? And what certainty can be had,—whether from deduction or inference, that posterity will be suited with the provision that we make for it! May it not suffice to attempt the complete discharge of our duties as they are presented to us, in our own day and generation; leaving those by whom we are succeeded, to take their own measure of obligation to themselves and their time, in their own peculiar environment! The question then recurs: Cannot we better advance the Science and encourage and improve the Practice of Horticulture, than by the mere award of money to the larger or fairer specimen of Fruit, or Flower? Perhaps it might not be expedient or wise to discourage object-lessons altogether. But, cannot a higher form of teaching be introduced; a more advanced system of instruction such as a careful expenditure of our frugal savings shall enable us to initiate and foster? Experiment Stations—so called—appear to be restricted within the comparatively narrow province of agriculture; which, in its accepted modern definition is limited to "that species of cultivation which is intended to raise grain and other field crops for man and beast,—in short, signifying husbandry." Those Stations are not intended to take much account of the problems which have perplexed the human race since Eden was foreclosed and the first garden became a cattle ranch. Their Docents do not ransack mouldy papyri for some primeval mention of Fire Blight; nor exhaust patience and time in searching cuneiform inscriptions if perchance they may disclose to modern inquisitiveness whether there were a worm in the core of that Gravenstein before whose seductive aspect Eve succumbed—an easy victim! Nor yet does Clark University come to our aid; its energies being confined, at least for the present, to a profound analysis of the precise inwardness of the Cosmic Egg. So that what we—Horticulturists—would ascertain, we must find out for ourselves—and others!

It is quite likely that no amount of study will avail to determine with certainty, why every fruit of the earth was yielded prematurely, A. D. 1889. We may not learn with the strength of conviction, for what occult reason the canker-worm disappeared, and the caterpillar ravaged in very wantonness. Bacteria, it is asserted, are deadly foes to the pear tree. In what manner and to what extent, are these lowest forms of vitality subject to climatic influence that they did not get in their fine work during this year of our Lord, 1889, wherein, if countless foes have compassed us round about, Fire-Blight at least has not been mustered in the ranks of the devastating legion.

And yet another question, of serious import to ourselves. Shall not the science of Horticulture review the practice of grafting? If the unsettled problem of its expediency or wisdom is not solved by ourselves, to whom such research should be familiar, by whom then unless those delicious sciolists who resolve Floriculture, Pomology, Horticulture and the growth of vegetables into distinct and separate classes! Says that high authority.—*The Garden* (*Eng.*):

The Evils of Grafting.—I was very glad to see the remarks from such a good gardener as Mr. Scrase-Dickins on this subject at pp. 607-8. Grafting is in effect a kind of adulteration. When we ask the nurserymen to sell us one plant they often give us two in a more or less—generally less—effectual state of combination. It is an analogue of the coffee and chicory business. Amateurs cannot be too alert and cautious in seeing that they obtain either honest plants on their own roots, or if grafted plants, then a declaration to that effect should be made by the nurseryman, and the name of the stock on which the species or variety ordered is worked should be given. Grafted plants of all kinds are open to all sorts of accidents and disaster, and very often the soil, or the climate, or the cultivator is blamed by employers for evils which thus originated in the nursery. It is to be hoped that all cultivators interested in trees and shrubs will now keep their eyes open and note the behaviour of grafted as compared with own-rooted kinds. If grafted plants are better than own-rooted ones, then let us accept them, but do not let us be deceived in the matter. If in certain places grafting as a convenience has to be resorted to, then let it be root-grafting, a system that eventually affords the scion a chance of rooting on its own account in

a natural way. Many plants succeed as grafted when young, or for a few years, and afterwards fail, and then the gardener is often blamed instead of the nurseryman.—*F. W. Burbidge.*

*** We should not plant any grafted tree or shrub whatever so far as what are called "ornamental" trees and shrubs are concerned. There may be reason for the universal grafting of fruit trees, though we doubt it. But of the serious injury wrought by grafting in other ways there are heaps of evidence. The evils are more serious than have been stated in *The Garden.—Ed.*

Does not experience here in America, confirm that absolute dictum? What wealth of Rhododendrons has been dissipated in the futile effort to unite those between whom Nature had decreed an insuperable barrier! Take for another example the *Prunus triloba* of quite recent introduction and obvious charm! likely to renew olden memories of the Flowering Almond. Flourishing for a season in rich luxuriance, and all at once dropping off in a species of collapse, as it were, alike sudden and hopeless. Roses, on alien roots, are a delusion and snare. Propagation in that way offers no advantages over the simpler method of natural growth to which layering and subdivision afford ample subvention. The eager greed of the professional dealer overreaches itself. Identity may be transmuted, but maturation must be of gradual development. Exhaustion supervenes upon inoculation with a growth that has been so hurried as to allow neither accretion nor storage of vital forces. It supplies an apt illustration of that haste which makes waste with almost invariable assurance.

Mr. Robinson does not so emphatically condemn the practice of grafting, among Pomologists. But its evils must be apparent enough to such an acute observer, as he looks upon the currant and gooseberry "*trees*" of which perpetuation by a layering or sub-division has been rendered impossible. Does not grafting open a young heaven, as it were, to the lazy Horticulturist? Somebody else alike ambitious and energetic, has taken pains to sow, cultivate and test, until the point of approbation was reached. His neighbor tastes,—likes the flavor and begs scions. There was promise of a step forward. Has it not come to a halt? The medical faculty speak of "healing from the first intention." But they would not be understood as conveying the impression that in

that first intention, health lies inherent, or that it is inevitably imparted, *ex vi vulneris.* Hap-hazard some superb peaches were shown in our Hall within a few years last past. Might not perseverance convert such chances into a certainty? We know that excellence was not confined to a few varieties, for the equals, if not superiors of the Cooledge and Crawfords have been developed in this County and exhibited upon our tables. Your Secretary never beheld finer specimens than were shown to him during the first week of September, ult., that had been suffered to mature, whether on John, Richards or Sever Streets; perhaps forgotten by the donor, or overlooked by the ubiquitous thief. We may not object to the insertion in thrifty stocks, of buds from trees of such unqualified excellence. But why not secure and plant sound pits from choice fruits that we are sure were never infected by disease—gathering where we ourselves have strewn? "Be aye stickin in a tree, Jock!" said rare old Sir Walter.

Still another problem whose solution may upset pre-conceived notions, or dispel the vague mists of irrational prejudice. It has been taken for granted for long years that the out-door grape, for instance, requires a protracted warm season to which the direct rays of the sun must contribute heat and light. And yet, upon the fifteenth of September, ult., when the attention of your Secretary was first arrested, the Diana,—that latest of all approved varieties to mature,—hung from the vine of as ripe quality and full color as often on the first day of November! What latent forces in the laboratory of Nature conspired to achieve this surprising result? The winter it is true, had been mild. But there ensued, for a wonder in Massachusetts, a rainy season; when clouds dripping moisture were daily with us and the sun gradually faded into a tradition. The very early maturity of that grape cannot, of course, be owing to solar influence, operating as usual. It is easy enough to frame theories that might hold water this year, at least, since there has been little else. Have we stumbled perchance, upon a clue? Does the grape crave water, and thrive upon it, when supplied in abundance? We know that the wild native grape-vine selects for

its habitat moist lowlands and even dense swamps. Have we—blind leaders of the blind,—over-looked an actual fact, because it lay so obviously before us, and disregarded the plain lesson that it was meant to teach! The best and dryest crop of squashes—Marrow and Yokohama—that your Secretary ever grew, developed while they were subject to an incessant *douché*. He has never forgotten that fact, although hesitating to deduce from it an inflexible rule. Does this year afford an analogy; and are we warranted in the contention that irrigation may be found as essential to successful Horticulture here in Worcester County as it has approved itself in far Mormonia and Monogamia?

A marked preculiarity of the premature horticultural development, this year, has been its unbroken continuity. Of yore, there were often seasons whose promise was quickly blighted; wherein the opening crocus or Narcissus would be buried under a foot of snow. The tulip has encouraged a hope, in early May, that cold and persistent rains effectually disappointed. This year the strawberry was favored with intermittent showers until the fecundity of such plants as were in existence made both palate and spine tired; consumer and grower alike wearying in well doing. But then scarcely a single plantation of strawberries came out from the winter in good condition. And that, not so much owing to the season, which was unusually propitious, as to the neglect of man to profit by his opportunities. The while, raspberries spoiled, decaying in the young dog days, whose dense moisture was prolific of a fungus or mildew between which there neither was nor could be option. A. D. 1888-9, from the date of your Chrysanthemum display until long after your first vernal exhibition the skies smiled, the air was soft, and the temperature uniformly moderate. No winter season within the memory of any man now living was ever more genial. If, at any time, the horticulturists of Worcester County were warranted in bright anticipations it was especially in the Spring of 1889. But what has been the harvest? If any fruit, the larger portion wormy, or imperfect otherwise; of deficient flavor and untimely maturation. Very likely the ground is carpeted or paved with defective specimens; but the empty shelves of the fruit room offer forlorn prospect for the hearty appetites of winter.

It has been asserted by old-time devotees of Hard Cider, that A. D. 1840, the cherry was at its prime in Worcester, on the seventeenth day of June. The sons of political veterans saw a renewal of that miracle, as it were, for a Massachusetts season; and could hug themselves in the fond delusion that the precession of fruits, like the election of the saints, had been a matter of foreordination, and was no longer relegated to the helter-skelter of the polls.

Our schedule for A. D. 1889, was carefully framed after a full comparison and study of past seasons. Yet, among the earlier fruits, Gov. Garland and Waterloo peaches were shown upon the twenty-fifth of July, when we had only ventured to anticipate early varieties, by a tentative gratuity on the eighth of August. Beatrice called for August 15th, was mature upon the first of that month. Among vegetables, Beauty tomato and Marrow squash were both shown upon our tables August 1st, precisely two (2) weeks ahead of their assignment. The Bartlett pear was necessarily advanced, to prevent it being said that an exhibition of the Worcester County Horticultural Society was duly held, whereat no specimens of that standard variety were available. In mid September, Louise Bonne that is not gathered must needs be picked up, bruised, from the ground.

It would hardly be worth while to speculate upon chances yet remote; whether the winter is to close in upon us ruthlessly, or to recede as a twelvemonth since in a dream of ethereal mildness. Suffice it to say that this reversal of all climatic probabilities introduces a new element among the calculations of the horticulturist; as though the problems for his practical solution were not already perplexing enough.

Does your *Secretary* then surrender his faith, so emphatically declared of late in your presence, that it is possible to grow fruit here in Worcester County at a profit! Recognizing the full force of adverse conditions, which do not now for the first time dominate the situation, he can yet perceive that the plague of insects will not be remedied by nature alone. He believes in, and would insist upon the destruction of infested specimens, with as much promptitude and as thorough devotion to the work as the careful housewife manifests in the extermination of the

carpet-beetle or *cimex lectularius.* There are insect foes to every crop that man would gather and enjoy. We cannot sow and reap in indolence; nor does any one expect large fruition when he plants grain or tuber. The cotton-boll has its especial worm, even as the apple has its codling moth or the plum its curculio. The Hessian fly and the potato beetle unite the twin extremes of tradition and actual observation; ceaseless diligence alone availing to arrest their destructive ravages. Only from the orchard do we count upon a return for which we have expended no toil. We find ourselves in possession of a lot of trees, set out by whom we may or may not know; neglected in the past, as we cannot help seeing; their bark covered by scale or moss-grown; and their branches robbed by sap-sprouts of the little vigor that they might otherwise retain. If the potato beetle comes in force we meet his incursion with the ready resource which science has placed in our hands. Does a thunder shower threaten our hay, all cured for storage in the barn? Every hand is summoned to its rescue, Sunday though it be. The orchard is the one thing in the possession of the horticulturist that is left to care for itself. His father planted it, forsooth, selecting the varieties approved in his own day; or inserting them as scions when made favorably known thereafter. His son receives no return, from one cause or another, in an unpropitious year possibly, and straightway the orchard is doomed to the axe and fire. It never seems to occur to this Earth-Lord (is the title more sonorous than that of the German *War-Lord?*) that there was an origin to the orchard, and that like may be expected with reason to generate like for all time. He has virgin soil of his own; whether such from the bounty of nature or the fault of man, is immaterial. If heretofore tilled to the point of exhaustion and waste, Nature has kindly intervened with her deliberate process of restoration. Whether renovated or primeval it is as God first looked upon it and said:

"Let the earth bring forth grass, the herb yielding seed and the fruit tree yielding fruit after his kind, whose seed is in itself, and it was so."

If, as your Secretary has insisted before, fruit is not grown to profitable advantage throughout this County of Worcester, here-

tofore renowned for its pomological skill and success, does it not behoove us to look at home and see if the fault does not lie at our own door and not at the throne of God! For if at our own door self-conviction will be the first step towards amendment. If scale, blight or crack, with the worse than Egyptian plethora of insects, are the divine penalty for neglect and sloth, we shall at least have the option of mending our ways as we bow in conscious submission beneath the rod that smites us.

A Horticultural Society that is worthy of the name cannot insist too strenuously that quality shall govern the bestowal of its awards. The Society itself is composed of those who already know a good thing from actual experience, and of others who became members because, having seen an exhibition of what was superior to their own, they naturally wished to grow it in their own gardens. They desired flowers to cut for the adornment of their living rooms, and fruits wherewith to appease those youthful appetites that were too keen to await the Thanksgiving turkey. Their roses may not comply with the scale of technical perfection, nor be fit to compete against professional florists, in a class of twelve pet whims! But if the petals of their home-raised flowers should chance to be slightly fretted by wind and storm, their owners would at least have flowers not too choice for personal or domestic ornament; while upon fragrance they would be sure to insist, as a *sine qua non.* Nature, which created Jumbo as an exception among elephants, also imposes bulk upon the cabbage and squash. But the size alone of Her Majesty confers no lasting supremacy among roses; nor do symmetry, color and perfume fail to retain their tenacious hold upon the popular taste. How often has Jacqueminot been left off from selected lists. How invariably do the people rally in its behalf, and by their instinctive if untrained preference, vindicate the ancient adage co-eval with the very birth of Democracy, that a good many are apt to be wiser than a very few!

As matter of fact, have we not actually retrograded in the cultivation of fruits? What does Olean Street show to-day, compared with its superb exhibition of a few years ago? One of

our members, heretofore famous for the facility with which he could extract animal as well as vegetable blood from a turnip, and whose diversity of tomatoes from one and the same stalk bade fair to originate a new genesis, has abandoned his idols, succumbing to the attractions and attrition of house to house traffic. Years since, the venerable Charles Richardson set an example, placing *Triomphe de Gand* upon our tables for seven (7) successive weeks, all the specimens being in peerless condition and size. Now, that variety is discarded; its excellence a tradition cherished by a few of your older members, while your premiums are literally the prey of novelties that would never be grown if they were but thoroughly known. Joseph C. Lovell is no longer alive to astonish us by his unlimited collection of American grapes, and to compel attention to the merits of his subject, wherein his faith was as sincere as it was manifested in the downright earnestness of his honest nature. The huckster can be trusted to look out for himself, *as he does!* If a pear will sell it is the pear for him. The old Chelmsford would meet his want, as well as Earle's Bergamot! the Lord forgiving your Secretary for naming the two in the same connection. The Clairgeau is to him a very symbol of excellence,—as it were a paragon among fruits. If it attracts the eye and relaxes the purse-strings, why should he care if it does not also tickle the palate! But the conscience of a Horticultural Society cannot be so easy-going nor pliant. It must strive for pre-eminence or fall far short of the purpose of its existence. Would outward appearance sell the Ansault, Lucrative, or even the Seckel! Possibly the casual streak of crimson to Earle's Bergamot might find a market, more or less sluggish, for that variety, but its acceptance and rank should not be suffered to depend upon the hazard of color. Beurré Giffard is indisputably the best pear of its brief season. Yet it is allowed to die out to make room for Clapp's Favorite, alike large and tasteless, but oh! so pretty. Intrinsic positive merit is the only sure ground whereon a society like this can base its commendation. Lacking that, whatsoever else may characterize them, nor flower or fruit can deserve our approval. And without such merit, it is safe to predict that popular favor cannot be retained long.

In the preliminary remarks with which George Jaques, of honored horticultural renown, prefaced his pamphlet record of transactions during our earlier history, he says that:

"The success of the society was no longer to be questioned; a large number of gentlemen (would that we could add—and ladies) became members of it."

The statement which he was unable to make is, A. D. 1889, the easiest possible to your Secretary, as it would have been at any time within an entire generation last past. It might be difficult to exaggerate the extent of our obligations to our female associates of this Society, not alone in Worcester, but throughout many of the adjoining towns, who have so zealously contributed from their time and means towards the success of the frequent exhibitions. It does not require a very keen observer to notice that the favor of Ceres and Pomona is uncertain; often withheld upon the merest pretext that this rowen must be got in, or that corn shucked. Flora is no such slouch: doing all things decently and in order, and yet keeping her skirts ever clean as the whitest snow-flake that threatens her very life. It has often cheered your Secretary, as he lifted his eyes from the dull routine of his clerical task, to behold the apparition that would surely greet him, of bright looks, intent interest, and the sure development of the loose collection into a tasteful arrangement. The weight alone of the well-filled baskets should be appreciable to some who have not yet felt the grasshopper a burden. And all this, bear in mind! constantly; as well in the fervent heat of early summer, as during that sticky, oppressive season sacred to the dog-star and his countless litter of stellar pups. Whosoever else may faint or falter, Flora and her votaries offer a cheek fair and fresh as the blush rose to our salute of welcome. Robbing themselves for our benefit, our bounty can return at best but an inadequate recompense. Yet if the remuneration that we may bestow cannot, in the very nature of things, be commensurate with desert, it will be possible, at the worst, to manifest an appreciation as cordial as it should be unreserved.

But with all this devotion and self-sacrifice can we not detect a taint, as it were, connecting it with the soil,—of the earth,

earthy? Your Trustees propose four (4) premiums in almost every class of Floriculture; thereby evincing a liberality quite akin to profusion, and such as it extends, in like measure, to neither the Fruit nor Vegetable Departments. Yet latterly, there has crept or crawled in a practice of ignoring the fundamental purpose of our Society; of deliberately declining our challenge to friendly competition; and of awaiting, with such Christian and feminine grace as might be held in superfluity, the reluctant bounty of the judge. This method of exhibition, seemingly growing in acceptance throughout these latter days, is little better than an evasion of the spirit of our rules. Competition is essential to our healthy existence, and without it we must stagnate and die. It is the better of two or more lots of flowers or fruit, to which we intend to award our premiums; and the palm of excellence can be determined in no other way than by comparison. The gratuity should never be bestowed as a matter of course. Its original design was to smooth the slight asperities consequent upon that strict adherence to form without which no Society can exist in sound vitality. But when the award of gratuities has become numerically, if not intrinsically, superior to the premiums, wherever or to whom is especial merit assigned? That lofty standard of supreme and unquestioned excellence that has been maintained unswervingly for well-nigh fifty (50) years is ignominiously abased;—and all for what! That this or that exhibitor, who confesses inferiority by declining to enter into equal and honorable rivalry with associates endowed with no greater advantages, may get fifty cents! Shade of Daniel Waldo! was it for such a final consummation that you bequeathed the generous sum whereon were secured, firm and true, the foundations of this Horticultural Hall!

This Society was represented in accordance with its usual custom, at the late session of the American Pomological Society in Ocala, Florida. The very interesting report of your delegate has been submitted, and should be published in your Transactions. It would appear to be a duty that we owe to our acknowledged high repute among cognate organizations to co-operate with all who have the true interests of Pomology at heart. For,

although but a portion of our interest is directed towards the origination and development of Fruits, Horticulture is all-embracing, and vital with generous influence. It is not liable to stricture, as appears to be the conceit of that funny aggregation,—the New England Agricultural Society. It was not left for Groton and Salem to separate those who were united at the creation. And, even though a rude ploughshare may be driven through our especial field of science and practice; drawing a faint line of distinction where difference never existed; establishing Horticulture, Floriculture, Pomology, and Vegetable growth apart, by themselves, in a novel and peculiar terminology; we have positive evidence continually before us that those who were joined when the stars sang together cannot be severed though the brasses clash. The oranges of Florida concern us—largely their consumers. It is our hope, and interest alike, that no untimely frost may chill their nascent bloom or cut off their ample promise. Doubtless, ere long a system of interchange will make the traffic in semi-tropical fruit more a matter of mutual barter than, as now, of direct, one-sided outlay. The Belleflower, Northern Spy, or Roxbury Russet may yet find place upon the tables in Jacksonville and St. Augustine. The trade, at present, does not impoverish us, although we have to pay in cash. As with bread cast upon the waters we are benefited ultimately. In this case, by the commerce, by the personal intercourse, by the enjoyment of delicious and healthful fruit, that we cannot ourselves produce, and should therefore rejoice to get so near our own doors.

It is of interest, and perhaps advantage, to note the different opinions expressed in various sections of the Republic, concerning varieties of the Pear more or less favorably known among ourselves. Thus, the *New York Times*, which keeps a close and usually intelligent watch of the fruit market, had only to say of the Bosc that, like the boy's puppy, it was better than it looked! In a subsequent issue, it referred to the Sheldon as—

"An apple-shaped pear, rusty in appearance, somewhat sweet, and is really a very good pear either for cooking or for eating in a raw state."

But a very few weeks since, one of our few surviving Honorary Members—John J. Thomas—who, since the death of Marshall P.

Wilder, and the enforced retirement of Patrick Barry, stands without a peer among living Pomologists, published an article in the *Country Gentleman* descriptive of "Some good varieties of the Pear." Summed up, they are Anjou, Sheldon, St. Michel, Seckel, Lawrence, Clairgeau, Bosc; the conclusion being eloquent with praise of the Bartlett. It is curious to find this eminent authority while admitting that the Bosc, for instance, "is one of the best of all Autumn Pears," yet declaring that "the tree is not a very good grower, and is injured by our severest winters." Here, in Worcester, the Bosc is at last receiving its proper recognition as one of the very best varieties. Although late in coming into bearing, its growth is rapid enough to be consistent with maturation of the wood; and it minds a blast from the North Pole about as much as does the Hickory or White Oak. The writer has often puzzled himself as to the character of the winters in Western New York; surmising that the contiguity of countless lakes might encourage frequent and intense vicissitudes of temperature. He recalls to mind that Ellwanger & Barry once thought Cydonia Japonica not much better than half-hardy in the vicinity of Rochester. Yet Horticulture is a success because of the proximity of these charming bodies of water; and the wonder is why the tough wood of the Pear should not be equally proof against extremes of frost, in that favored region, as it has approved itself for more than a century, in the American Bottom at Kaskaskia, among the old French settlements of Illinois!

Writing of the Seckel,—Mr. Thomas calls attention to a disease that it may be hoped will continue local, for the Seckel is a variety of world-wide acceptance that could illy be spared. It has been nearly destroyed, he says, by the same disease that has been fatal to the White Doyenné, or St. Michel:

"Scarcely a single bushel of good specimens being found in an estimated crop of two hundred bushels. Some years ago the Seckel in this orchard was fine and fair, and was the most profitable variety in an orchard of the leading market sorts. And during the present year some trees only a few miles distant bore perfectly fair fruit. This disease has puzzled cultivators, and in the experiments we have made Seckel trees subjected to enrich-

ing cultivation, others growing in grass, and those pruned and unpruned, have been alike affected. This disease will afford an excellent opportunity for scientists to exhibit their skill in discovering an effectual cure."

The symptoms described by Mr. Thomas are markedly similar to some which, in the recent experience of your Secretary, have characterized the failure of Winter Nelis. Trees show white with bloom, a profusion of young fruit, thereafter a cessation of enlargement, until finally scab or scale, cracking, culminating in the prémature fall of a worthless crop. Abundant manure or none, root-pruning, shortening-in of branches or allowance of rampant growth,—it was all the same in the end. Can the Docents explain?

The selection of certain varieties by Mr. Thomas, and his approval so far as it goes, has almost exclusive relation to market purposes. Of Anjou, he say that an "experienced commission merchant remarked that, if this pear only had a fine red cheek, it would be the best of all market varieties." He describes Lawrence as a "late Autumn and early Winter pear, of fine quality, but not equal to the best, is only partially melting. * * * It is a good market variety." Of that deceptive beauty, Clairgeau;—"the pears are large, smooth, and when well ripened and have become soft, they are excellent in quality. * * * Trees fifteen years or more of age uniformly bear pears of good quality, and the variety proves one of the best for market." He adds that the Howell is profitable; but, of the Bartlett, enough cannot be written in praise.

All which may suffice for incentive to individual cultivators. But Pomology exacts something more. And even our venerable associate might do wisely to keep fresh in mind, when prosecuting his favorite science, the grand legend upon the seal of his imperial State. *Excelsior* is not a motto for the average market! Should not Horticulture set truth before the people? Accustom them to the best, and esteem nothing too good for their taste or consumption! Were your Secretary to frame a list for the owners of small homesteads;—a list of pears that he considers indispensable

because of conceded superiority in quality; fecundity; hardiness, or general adaptation to a diversity of climates; he would restrict himself, as follows:—Bartlett, Bosc, Comice, Winter Nelis, Josephine de Malines. For the benefit of the children, whose multiplication, to the shame of New England! is so fashionably discouraged, there should be space devoted to St. Ghislain and Washington; palatable enough to their elders, but of which, ripening and falling from the tree for a whole month, you can at any time see the boys and girls searching the ground in eager appetite for windfalls. The noblest of all late pears, that should grace the Christmas table, has been suffered to fall into oblivion because of a presumed, perhaps real, tendency to blight. But anyone who would like to know how good a pear can be, when in its perfection, has but to grow and ripen Glout Morçeau as it was shown long years since by John C. Ripley, of perennial renown in this Hall.

It should be a subject for earnest congratulation that every effort, whether open or covert, to prevent the Society of American Florists taking a position of direct hostility to the levy of customs-duties upon the importation of Foreign Bulbs, &c., &c., met with such signal failure. If there is aught in the practice or science of politics, whereto American Horticulture should be swift to acknowledge its obligation, it is the fundamental principle of free and unrestricted commerce. The absurd effort to stay the invasion and ravages of *Phylloxera vastatrix*, by an absolute prohibition throughout the Continent of Europe of all traffic in vines or cuttings, succumbed to the sudden and inglorious fate that it merited. The American Hog (the quadruped!) is peremptorily excluded from Germany: but *Trichinæ* multiply and swarm in the intestines of the warrior descendents of Arminius. We invite and, if possible, assimilate: where we cannot cure, we endure. Just reflect, for an instant, upon the floral wealth whereof we should deprive ourselves, if we gave heed to that most virulent of all lunacies that America should surround herself with an insuperable wall! Think of the countless array of brilliant, hardy shrubs that Japan has yielded to our prying

search; of the barrenness that would displace thrift and beauty, were it to be determined that the Chinese and Japanese Flora must be dispensed with once for all! With much that is peculiarly our own, to what forlorn desolation should we condemn ourselves, were we to surrender those fruits of indefatigable toil whereby Fortune and Hogg so lavishly enriched our gardens and lawns; crowning themselves, the while, with perennial laurel. It may be that Hyacinths and Tulips would be of possible propagation in the muck of Peat, or Pine Meadows; or upon the sands of May Street, by Pipeville. But is it not obvious that Drain-Tile yield the better harvest; wherefrom Drapers and Lovells gather where they have strewn, fashioning that which they know how to manufacture; leaving Holland to produce what the experience of centuries and the tireless industry of a plodding race has succeeded in growing to a perfection that is, and must doubtless continue, absolutely unrivalled!

The hoarse croak of the political vulture is that Home Industry must be protected! Is there no industry employed upon the farm and garden? Or is that old-fashioned virtue indicated solely by the factory roll-call? Is there no toil at seed-time and harvest, or is its only emblem the miner's pick-axe? Tax one to extinction that thereby another may live and thrive! In plainer phrase, according to the terse old maxim: rob Peter to pay Paul! For instance, it has been proposed to levy a prohibitory duty upon the importation of Tin-Plate, whereof not a square foot is made in this country! Could it be manufactured at a profit, there is plenty of idle capital that would have been applied to the task, long ago. But, besides the prospect of an assured profit, the lure of a monopoly undisturbed by competition must be the attraction for unemployed money. Possibly you may fancy that Horticulture would not be affected by such legislation, and deem that your Secretary is hard pushed for an illustration of what the bigot or purblind may decry as a partisan argument! Yet,—at a meeting of that most useful organization, —the Western New York Horticultural Society, holden at Rochester, N. Y., in January of the current year, Mr. S. G. Curtice,

during a discussion upon the Canning Industry, published the following statement showing the business of his firm:

Expended for A. D.	1886.	1887.	1888.
Fruit.....	$142,000	$203,000	$236,000
Tin-Plate.....	38,000	43,000	70,500
Sugar.....	10,400	13,000	14,500
Labor.....	36,000	54,500	68,000
	$226,400	$313,500	$389,000

This mind you describes the work and out-put of but a single firm! Leaving out of consideration the oyster business as alien to our pursuits though of kin to our appetites, at what sum shall we duly estimate the value of material essential to the proper working of the innumerable canning-factories throughout the Union? Shall Corn and Tomatoes be doomed to rot while some pampered monopolist and plutocrat in Pennsylvania contrives to fasten still new rivets in the fetters that contract and cramp our Terræculture! Shall our hill-sides be laid waste and our farms abandoned to sterility; until nature supervenes with her beneficent processes restoring and vivifying; for no better reason than that if Massachusetts sets up for herself in open market, selling where she can dearest and buying where she ought cheapest, paying unto Cæsar meanwhile all which he has the conscience to exact; she may arouse hostility among the fair-weather friends who were always notorious for a charity that vaunteth itself in public places, but is only lavish in the seclusion of its own home!

Take the article of Sugar,—an item in the tables of Mr. Curtice and a very palpable factor in the grocery accounts of Yankee housewives. Under the stimulus of excessive duties the exotic cane has been forced to an unnatural growth in an extreme section of our Republic. Shielded by that almost prohibitory Tariff, the Trust steps in and dictates the price at which it will suffer Coffee and Tea to be sweetened, Cranberry Sauce to be made as it ought to be, Fruit to be canned or preserved. The frugal housewife, who has seen the cost of refined sugar almost doubled within the last two years, may pride herself on the merits of a

theory that confronts her with such a condition. It is the same old story,—the spirit that acidulates the tones of our ascetic friends; —of an artificial stimulus whereof the force is impaired by use or repetition, whose application and strength must be continually renewed or augmented, but of which the final result is surely debauch, demoralization, and death.

There was land of old, throughout New England that, when tickled with a hoe laughed with a harvest. There was a time and not so long ago but that your Secretary was an eye-witness to the reckless waste, when the Terræculturists of Illinois threw their manure heaps into the nearest creek rather than be at the trouble of spreading it over their fields! Now,—agents of New Hampshire and Vermont, aye, even of Berkshire in our own Massachusetts, are striving to attract settlers from foreign parts, —Parthians and Armenians, the dwellers at the equator and in the land of the midnight sun, the saintly Swede in especial! that farms allowed to run to waste may once more find occupants and yield taxes! the chief end of civilized man. The alluvial soil of Illinois is not yet exhausted. But the plaint of its tillers is universal and vents no discordant note. It is incentive to reflection among themselves, so far and yet so near, and is fraught with the gravest suggestions to us. The land diminishes in fertility, the foreign market is denied, while the home market fails, and man grows steadily poorer. Writes from Champaign, Illinois, the observant correspondent of that pre-eminent newspaper,—*The Country Gentleman:* * * *

"Their cows and rough stock are scarcely worth 2 cts. per lb., and even 300 lb. fat veal calves are difficult to raise 3½ cts. upon. The corn, oat and hay crops of 1889, for the black soil counties, are scarcely more than two-thirds the average per acre of the last five years, while prices for these and neat cattle are 30, if not 40 or 50 per cent. lower.

"Meanwhile the rate of taxation is rather increasing than diminishing, and there is no reduction in the salaries of public officers."

And most pregnant is the reflection, with which he concludes, if such is the condition of Terræculture

"In counties on the black soil of Illinois, one of the World's most fertile and favorably situated tracts of land, what can be

the state of affairs where the soil is less exuberant and the situation less to be desired!"

Another writer of the same State, from its Rock River region, which was doubtless created to console man for the loss of Eden, after the forfeiture of that primeval garden, says that "milch cows bring $14.00 for common, $30.00 for choice; steers $2.25 to $2.50 per cwt." Yet, like an intelligent, and, what is better, an honest man, not being blinded by partisan prejudice, he admits that "the laws of supply and demand alone can help us." And further on, after referring to the establishment of milk factories, he concludes with a positive assertion that may not accord with the experience of some of our members:

"But, before dairying, or any other branch of farming, come the products of the garden for profit, if vegetables can be sold at almost any price." His conclusion is curious: "Oil-stoves and canned fruits and vegetables ruin the market and revolutionize the kitchen."

The illusion of the so-called Home Market is held out to the terræculturist as an especial lure. When he would sell fruit that should be eaten at home, better for himself and his young family, that no market at all were in existence! When he fosters the abnormal growth of a manufacturing town, with its inevitable concomitants of gregarious lawlessness and vice, the reflection whether he has directed his action as a citizen wisely and well must compel his most serious consideration. The ambition that possesses so many of our towns and cities to try and surpass each other in the mere matter of population should be reckoned a species of insanity. Neither prosperity, nor all the virtues, are exclusive products of the detached grange; nor yet are they monopolized by such aggregations of farmsteads as may suffice to constitute a town. The development from village to city, when it is inevitable, would better be a natural progression; the result of evolution, as it were, rather than of incorporated speculative greed. The Golden Age may have been a myth. New England, in its formative youth, was perhaps harsh and intolerant; subordinating earthly enjoyment to the rare luck of predestination. But there never was a better place to live in,

and, when the appointed time came, to die; until the haste to get rich beyond measure created and upheld the high-pressure factory system.

Travel sometimes opens the eyes and broadens the observation. Our minister to Portugal,* so well known to you in all his Protean shapes, sojourning for the nonce in one of the "effete monarchies," is now of the opinion that,

"The tiller of the soil in America is interested in the tiller of the soil in Europe, and the herdsman of the plains feels that the fountain-head from which his animals have sprung forms an important part of the most cultivated agricultural economy. The lesson the farmer is to learn is spread out over every latitude and is taught by every nationality. The results of experiments and experience in one land may be profitably observed in another; the failures may warn, the success may encourage. Even the manners and customs may be studied with profit; the great opportunies on the one hand and the narrow limitations on the other."

Might not we, Horticulturists, do well to invite a halt? Possibly retrace our steps in their downward tendency! Should we not at least consider if it were not better for Massachusetts; at any rate this grand old Terræcultural County of Worcester; to encourage and foster men and women instead of mules and spinning jennies!

A short while since, this Society felicitated itself, not so much upon the gain of a measurable relief from taxation, as in having secured some equitable exemption from a burden, intolerable because invidious and exacting. In all the Commonwealth there were but two (2) Horticultural Societies. They had been managed with frugality; had applied their savings to the extension of their legitimate operations, and as the direct result of the assiduous devotion of fifty (50) years to the purpose and objects of their existence, the product in Massachusetts of flowers, fruits and vegetables had become what the dullest observation cannot fail to see. If in Faneuil or Quincy markets; or in the detached and diminutive shops that yet remain their inferior substitutes,

* Hon. George B. Loring.

here in Worcester; housekeepers find the first choice fruits of the garden, field or orchard; their good fortune is directly attributable to the Horticultural Societies which, in Boston or Worcester, were compelled to struggle for appreciation; almost for existence. For even their existence in their present degree of affluence and unstinted liberality, would not be of possible assured achievement, were it to be attempted anew, under existing social conditions. A half-century ago, every one took an interest, which they were neither too fastidious nor lazy to manifest, in the infant Societies. Each and all contributed what they had at the time, and strove hard to exhibit more and better the next year. At that period nobody cared if a gelding could be brought to trot a second faster; its utility in propagating its kind being duly estimated. The bicycle had not been invented, and no one could imagine that the order of nature might be reversed, night being transmuted to day, that man should attain the full measure of his stature and more completely develop his likeness to his Maker, by crouching, ape-like, over a trick of mechanism! The purpose of those disinterested men, the founders, was to cause the earth to blossom as the rose, to induce a double return, getting two blades of grass, where before was but one! And, until those Societies, by their savings, were enabled to possess homes of their own, wherein and *whereby* to perform their bounden duty under the laws of the Commonwealth, they were constant recipients of individual and public favor. Ever since they have been singled out with a curious persistence to bear the burden of a discrimination that became, yearly, more invidious and oppressive.

But the relief sought by Horticulture was enacted at last and still later, doled out in grudging and pinched measure. The statutes declare that

"Portions of houses of religious worship appropriated for purposes other than religious worship shall be taxed at the value thereof to the owners of the houses."

Has the treasury of the City of Worcester ever derived a cent from the acute vigilance of its Assessors, applied to the close thrift of those shrewd saints whose God is apparently their belly! and

who found the Lord's House upon a Kitchen! What tribute is rendered unto Cæsar by the devout patrons of those unctuous larders!

Our Halls of Flora, Ceres, and Pomona are reserved for the especial uses of our exhibitions. But the first story of the building,—the shops or store-houses whereon the Society must depend for its very existence; which were constructed that they might yield a revenue to be expended for the purposes expressed in our charter, is now assessed for an amount nearly equal to the sum that was levied before relief was asked from the General Court! The Worcester Agricultural Society bought a tract of land away out in the suburbs. The city has grown and, in its expansion, the forlorn cattle-ground has become surrounded by dwellings and very largely enhanced in value. An offer for it in cash that would have realized a profit of more than a thousand per cent. was once quietly pocketed; a suppression that operated as an effectual rejection. The land itself is leased at hap-hazard, for the noble sport of mercenary base-ball; the thrilling sprint of the human buck; or an exciting struggle by the equine gelding for a supremacy to be perpetuated by his get! All this it would seem is taken as matter of course. Men who have striven, with some measure of success, to extend and improve Worcester, find their work of development arrested by this obstacle—the most complete example of hopeless inertia extant. It returns no revenue to City, County, or State; it possesses, without utilizing, the unearned increment from waste acres that would be better occupied by homesteads; it blocks the path-way and diffusion of settlement; it assumes to discharge duties that are more efficiently performed by ourselves, leaving undone the things that it ought to do; and thus literally and actually cumbering the ground! This Worcester County Horticultural Society of ours proposes a display of Flowers, Fruits and Vegetables on the 5th day of September; and can carry out its design if it will pay to the City and County of Worcester, and Commonwealth of Massachusetts, five hundred or more dollars in taxes upon a portion of its estate that is and must ever remain indivisible. The Worcester Agricultural Society, whose earlier and wiser members advised and promoted the formation of this Horticultural Society; to encourage a more

thorough prosecution and study of that comprehensive branch of terræculture; yielding to bad counsel and under stress of mismanagement, also enters the lists and challenges a competition, whose wrong intention is only surpassed by its absurdity. Yet, for such rivalry in part, ill-judged and ungenerous, it draws from the State treasury a bounty of six hundred dollars!

Smitten on both cheeks we have hitherto, in the phrase of the prize-ring, come up smiling after our punishment. But has patience or long-suffering, no limit? Or do we intend to proportion our endurance to the power and will of others to shift their proper load upon our over-burdened and galled shoulders! Grant that Issachar was an ass! What reason does that supply, in this nineteenth century, for exempting from their share of the common liability, the countless Kitchens of Theology, with their holy pots and kettles; or Thirty acres of House-Lots, that a half-dozen gentlemen from Groton, Salem, or Quoddy may, without cost, pose, *im*pose, *re*pose! illustrating by example, the pregnant gospel of "addition, division, silence."

Despite invidious discrimination, we have hitherto, and to a considerable degree, prospered. Our Society is no mendicant; and crawls under no table for mouldy crusts; nor yet for the dogs to lick its sores! It does insist, however, as it has the right to do, that in the award of equal and exact justice under the fundamental law its own case shall no longer be treated as an exception. And if the opinion of the Society should accord with the clear and fixed conviction of its Secretary, there will be no halt, in our struggle for a recognition of our claim to equality before the law, until the Supreme Judicial Court decides that the honest, open ownership of real estate is less entitled to consideration than a furtive investment in Federal bonds; or that a Society especially incorporated to "advance Science" is not a Scientific Society!

All which is respectfully submitted,

by

EDWARD WINSLOW LINCOLN,

Secretary.

Worcester, Worcester County, Mass.,
November 6, A. D. 1889.

REPORT OF THE LIBRARIAN.

To the Members of the

Worcester County Horticultural Society.

In presenting the customary annual report your Librarian does not presume to make an extended one. He can only give the condition of the Library, an account of how much the members of the Society have availed themselves of its privileges, and the additions in books, pamphlets, and reports during the year just closed. The number of books and pamphlets taken by members is about 200, a somewhat smaller number than last year. A large number of the serial publications has been read and consulted in the Library. A beginning has been made in binding which will be continued; and more shelf-room has been ordered which will soon be in place. Your Librarian is well aware that Horticultural reading is not confined entirely to our Library, as many of our members subcribe annually for one or more Horticultural papers or magazines.

It is very well known however that Horticultural literature is limited, and but few elaborate works devoted solely to Horticultural science can be obtained yearly, and what are published are usually quite expensive, which puts it out of the power of the average reader to purchase, therefore it is evident to all that a Society like this, which can afford to place upon its shelves all, or nearly all of what is worth putting there, in this line for reference and use by its members, is doing an incalculable amount of good.

Your Library Committee has been fortunate in procuring a complete set of the Cottage Gardener (now published as the Journal of Horticulture), at a very low price. The Society has been a subscriber for this work for a long time, but there were several volumes lacking in the series, and by this purchase the missing volumes are made good.

Your Librarian cannot omit to speak in terms of praise, for the very valuable assistance which his associates on the Library Committee have rendered him. He feels and knows that no more faithful and conscientious work could have been done for the Library than that which has been done by his co-laborers. Without further remarks the following list is appended for your more particular examination:

Report of the Commissioner of Education for the year 1886–'87.

Bulletin, No. 3, on Tuberculosis; from the Hatch Experiment Station, Massachusetts Agricultural College, Amherst, January, 1889.

Fourth Inaugural Address of Hon. Samuel Winslow, Mayor of Worcester.

Circular of Information, No. 5, 1888; from Bureau of Education, on industrial education in the South; by Rev. A. D. Mayo.

Reports from the Consuls of the United States, May, June, July, August, September, November and December, 1888; January, February, April and May, 1889.

Sixth Annual Report of the Board of Control of the State Agricultural Station, at Amherst, Mass.

Circular, No. 6, 1888; account of the Proceedings of the Department of Superintendence of the National Educational Association, at its Meeting in Washington, Feb. 14-16, 1888.

Second Annual Report of the Interstate Commerce Commission, 1888.

The Road and the Road Side; B. W. Potter.

Curtis Botanical Magazine, Vol. 44, 1888; Society.

Census of Massachusetts, 1885, Vols. 1 and 2, population and social statistics; Hon. H. L. Parker.

Agriculture of Massachusetts; Hon. H. L. Parker.

Census of Massachusetts, 1885; Manufactures, Fisheries and Commerce; Hon. H. L. Parker.

Report of the United States Commissioner of Agriculture, 1887.

Report of the condition of Winter Grain, the condition of farm animals and on freight rates of Transportation Companies; Dept. of Agriculture.

Bulletin, No. 44; on feeding Steers of different breeds; from Experiment Station, Agricultural College, Mich.

Bulletin, No. 45; Subject, Why not plant a Grove; from the Department of Botany and Forestry, Agricultural College, Mich.

Bulletin, No. 43; being the Annual Report of the Director of the Weather Service Department of the Agricultural College, Mich.

First Annual Report of the Hatch Experiment Station of the Mass. Agricultural College, Amherst, Mass.; January, 1889.

First Annual Report of the Agricultural Experiment Station of the Cornell University, Ithaca, N. Y.

Bulletin for April, 1889, Ex. Station, Cornell University, Ithaca, N. Y.

Annual Report of the Parks-Commission of the City of Worcester, 1888; Edward Winslow Lincoln.

The Journal of Horticulture, Vols. 17 and 18; Third Series.

Transactions of the Massachusetts Horticultural Society, Part 1; year 1888.

Index to Vol. 29 of the Consuls of the United States.

Circular of Information, No. 4; from Bureau of Education; on Education in South Carolina.

Circular of Information, No. 5; from Bureau of Education; on Education in Georgia.

Circular of Information, No. 6; from Bureau of Education; on Education in Florida.

Circular of Information, No. 7; from Bureau of Education; on Education in Wisconsin.

Bulletin, No. 46; from Ex. Station, Agri. College, Mich.; on Potatoes, Roots, Fertilizers and Oats; March, 1889.

Bulletin, No. 47; from Ex. Station, Agri. College, Mich.; on Silos and Ensilage; April, 1889.

Bulletin, No. 48; from Ex. Station, Agri. College, Mich.; on Potatoes, Kale, Squashes and Tomatoes; April, 1889.

Bulletin, No. 49; from Ex. Station, Agri. College, Mich.; on Chemical Composition of Cornstalks, Hay and Screenings; May, 1889.

Bulletin, No. 50; from Ex. Station, Agri. College, Mich.; on The Grain Plant Louse; June, 1889.

Bulletin for July, 1889; Mass. Ex. Station; on Commercial Fertilizers.

Bulletin for July, 1889; from State Board of Health, Nashville, Tenn.

The Garden's Story, 1889, by Geo. H. Elwanger; Society.

Bulletin, No. 7; from Ex. Station, Cornell University; on the Sprouting of Seeds.

Bulletin, No. 1; U. S. Department of Agriculture; Division of Economic Ornithology and Mammalogy, on the English Sparrow in North America, especially in its relations to Agricul-

ture; prepared under the direction of Dr. C. Hart Merriam, Ornithologist, by Walter B. Barrows, Assistant Ornithologist, Washington, D. C., 1889.

The English Flower Garden; Second Ed., 1889; by Wm. Robinson.

Consular Report, No. 106; July, 1889.

Bulletin, No. 9; Ex. Station, Cornell University, Ithaca, N. Y.; on Windbreaks in their relations to Fruit growing.

Scientific Papers of Asa Gray; selected by Chas. Sprague Sargent; 2 vols.; 1889.

The Cottage Gardener and the Journal of Horticulture from 1849 to 1886; 74 vols.

Bulletin, No. 6, Oct. 1889; from Hatch Ex. Station, Mass. Agricultural College, Amherst, Mass.

The American Florist; Semi-Monthly; 1889; Society.

The American Garden; Monthly; 1889; Society.

Gardener's Chronicle; English Weekly; 1889; Society.

The Garden; English Weekly; 1889; Society.

Gardening Illustrated; English Weekly; 1889; Society.

Garden and Forest; Weekly; 1889; Society.

The Country Gentleman; Weekly; 1889; Society.

The American Agriculturist; Monthly; 1889; Society.

The Agricultural Gazette; English Weekly; 1889; Society.

Vick's Monthly Magazine; Society.

The Massachusetts Ploughman.

Popular Gardening; Society.

The Pinetum Britannicum, a descriptive account of hardy coniferous trees, cultivated in Great Britain; three volumes; London and Edinburg, published by Peter Lawson & Son; Society.

Revue Horticole; Paris; 1888; Society.

Catalogues received, 1889: Landreth's Vegetable and Seed, Philadelphia, Pa.; Hooper & Co., Seeds, London, Eng.; V. H. Hallock & Son, Queens, N. Y.; R. & J. Farquhar & Co., Seeds, Plants and Tools, Boston, Mass.; Peter Henderson & Co., New York, N. Y.; Hovey & Co., Boston; W. W. Rawson & Co., Vegetable and Flower Seeds, 34 South Market street, Boston, Mass.

All of which is respectfully submitted.

CHARLES E. BROOKS,
Librarian.

HALL OF FLORA,
November 6, 1889.

REPORT OF THE TREASURER.

CHARLES E. BROOKS IN ACCOUNT WITH THE WORCESTER COUNTY HORTICULTURAL SOCIETY.

1888.			
Nov. 1.	To cash on hand	$2,863 62	
	To cash received for rent of stores	3,800 00	
	To cash received at Chrysanthemum Exhibition	64 55	
	To cash received at Rose Show	40 80	
	To cash received from new members	10 00	
	To cash received from rent of hall	2,485 69	
	Estate of Phylonzo Brown	476 10	
	Total		$9,740 76

CR.

By cash paid Premium Awards, 1888	$1,734 54	
By cash paid judges of exhibits	156 00	
By cash paid Mechanics Savings Bank	1,500 00	
By cash paid Mechanics' Savings Bank, interest	62 50	
By cash paid Worcester Gas Light Company	218 10	

By cash paid Chas. Hamilton, printing	229 56
By cash paid City of Worcester, tax	512 00
By cash paid City of Worcester, water	6 29
By cash paid for books and papers	225 14
By cash paid for insurance	150 00
By cash paid J. S. Perkins (Hall Ceres)	86 21
By cash paid F. W. Wellington & Co., coal	59 50
By cash paid F. M. Marble	50 00
By cash paid O. S. Kendall & Co.	21 78
By cash paid for advertising	18 00
By cash paid A. E. Davis, photos	15 00
By cash paid Geo. W. Barton, repairing roof	14 01
By cash paid Thomas B. Foss, repairing roof	4 24
By cash paid Arba Pierce, evergreen	11 70
By cash paid B. C. Jaques, repairing doors	8 90
By cash paid Safe Deposit Company	10 00
By cash paid Putnam & Davis, stationery	10 80
By cash paid J. Van Wormer & Co., grates	3 60
By cash paid Clark, Sawyer & Co., shades	6 75
By cash paid A. F. Ballou, varnishing doors	8 98
By cash paid salaries	1,400 00

By cash paid extra labor and sundry small bills.....	255 90	
Total	$6,779 50	
Balance on hand.....	2,961 26	
Total		$9,740 76

November 16, 1888. The treasurer received from the executors of the estate of Francis H. Dewey, a check for $1,000, which has been placed on interest in the Mechanics Savings Bank to be known as the "Francis H. Dewey Fund," the interest alone to be used in the purchase of books for the library, according to the terms of the bequest.

Respectfully submitted.

CHARLES E. BROOKS,
Treasurer.

REPORT OF THE DELEGATE TO THE SESSION OF THE AMERICAN POMOLOGICAL SOCIETY, AT OCALA, FLORIDA.

To the Members of the
Worcester County Horticultural Society.

Through the courtesy of this Society, as your accredited delegate to the American Pomological Society, which held its 22d biennial session at Ocala, Florida, the 20th, 21st and 22d of February, 1889, I beg leave to make the following report:

In pursuance of an invitation to meet with the Florida Horticultural Society, and the Florida International and Semi-Tropical Exposition, at Ocala, Merriam County, members of the American Pomological Society to the number of ninety, from twenty States and Territories, and the Dominion of Canada, reported at that place, and were not only most cordially received by the Florida Horticultural Society, by His Excellency Governor Fleming (who not being able to be present transmitted his address by wire), the mayor of Ocala, and President Wilson of the Semi-Tropical Exposition, to their hospitalities, but every courtesy was shown us that could be expected to make our stay with them pleasant, to see the products of the State, as shown by them, and learn the manner of their cultivation.

Wednesday, February 20th, the business meeting was held at Opera Hall at two o'clock, to hear the address of the President, receive the credentials of members, and choose the officers of the society. After listening to the able address of President Berkmans, the following officers were chosen:

President, J. P. Berkmans, of Macon, Ga.
First Vice-President, T. T. Lyon, of Michigan.
Treasurer, Benjamin G. Smith, of Massachusetts.
Secretary, A. A. Crozier, of Iowa.

As the meeting was held at this season of the year, six months earlier than usual, for the purpose of seeing and learning what our country could do in producing tropical fruits, we were now to be introduced in the realm of the "Orange Queen," and to her tropical home, with all her retinue in the line of the citrus family.

In the hall of exhibition we found her in regal state and undisputed throne. We found with her, as with the peach, apple and pear that improvements are continually going on in quality, flavor and form. The orange will soon be shipped to our market with special names, such as "Homosassa Majorica," "Early Oblong," "Sweet Seville," "Maltese Blood," "Noblesse," "Parson's Navel," and last but not least, "Washington Riverside," and many other names of less note. These names will be put upon the parcels of boxes instead of the shippers or growers alone. Every means were granted us to test the quality of the different kinds, until some of us were obliged to succumb and cry enough. When you take into consideration the hundred different kinds, more or less, and perhaps as many friends of each, you can form some idea of the herculean task we went through (pleasant though). They have certain rules for testing the merits or quality of each variety, with a scale of ten points of merits; an orange loses one point for a peel or skin that is more than one-eighth of an inch thick; if it is three-sixteenths of an inch thick, two points; four seeds, or more, one point; too much acid, one or more points; too sweet, one point. Most of the oranges we have here would not rate more than six or seven points.

It is hardly fifteen years since this industry acquired prominence. There were but a few hundred small groves twenty years since, and now probably there are more than ten thousand. The commercial advantage to railroad interests is vast; while to fill one car it would take twenty-five acres of cotton, one acre of oranges would fill the same; or twenty-five acres would load a train of twenty-five or thirty cars.

Here allow me to make an extract from a paper read before this meeting, on sweet oranges, by E. H. Hart of Federal Point, Fla.

He says: "If we estimate the crop of Florida at present at three million boxes, it requires ten thousand car loads of 300 boxes to the car to move the crop; and calculating the average freight at sixty-six cents per box, the crop pays the railways two million for freight alone. The value of box stuff used would be $390,000; the nails $30,000: the paper for wraps $120,000; labor in gathering and packing $600,000; thus making an output of one million one hundred and forty thousand dollars for simply preparing the fruit for market."

Next comes the lemon crop, which is in its infancy, but which bids fair to attain second place and rise to full grown commercial importance. On this fruit I would refer you to a paper read before this meeting by H. S. Kedney of Winter Park, to be found in the "Florida Dispatch," the "Farmer's Fruit Grower," Thursday, Feb. 28th, 1889, or the Transactions of the American Pomological Society, when published.

As we continued our search through the hall of the Florida Horticultural Society, we found that there were many members of the citrus family in the schedule. The display was enchanting. The orange was shown in pyramids, triangles and all manner of forms on the tables and walls of the hall, intermixed with all the fruits and flowers and other productions of this tropical peninsula of our great country. First among these we will mention the pomelo (or grape fruit), because it is so nearly identified with the orange. As an article of commerce it has conquered a market of its own. It is very productive; the tree looks very much like the orange; in an orange grove it would hardly be picked out from an orange tree by a causual observer. It will sustain an enormous weight on its branches—from ten to fifteen hundred pounds to the tree of twenty years growth.

Next comes the Guava: As a fruit for jelly it bids fair to fill the place now occupied by an imported article.

The Kaki, or Japan Persimmon is producing much interest with fruit growers, but as it was not the season with it no fruit was seen, but the trees were shown to us, with great hope for the future.

The Loquat, a Japan plum or Medlar: We were shown this fruit upon the trees that were very large, and vigorous bearers; I should judge ten bushels to the tree. This fruit will soon be in the market. This will be rather out of season, *a plum in the spring.*

The Strawberry also has a natural place in her soil. This fruit was shown ripe in boxes and also on vines in the semi-tropical building. One thing in favor of the strawberry here is its length of season, which is nearly four months. The berries are so long in maturing that the flesh is harder and therefore more dense, and bears transporation better. They come from Florida, fifteen hundred miles, in better condition than from New Jersey, two hundred miles from market.

The Pine Apple to quite an extent is grown here of very fine flavor and large size. We saw the plants setting their fruit. They are propagated by slips mostly. The pine apple is one of the most important fruits grown in Florida.

The Banana is found in the southern portion of the State, where it bids fair to compete with, or rival, some of the imported fruit.

The Cocoanut is found in the region of the banana. The three last named to be successfully grown must be below the frost line.

A Peach has been found indigenous to the climate, bearing the queer cognomen, "*Peento.*" It is doing wonders. Mr. George L. Tabor claims to have shipped four hundred bushels in one season. It is flat in shape, high color and when fully ripe is very good. I saw some very fine trees of this variety full of peaches the size of pullet's eggs.

Since writing the foregoing, Miss Bess Huestis, the owner of these trees that I describe here, has received for seven bushels of them $100.

The Le Conte pear is also grown here. The tree is the most thrifty-growing of any pear tree yet found. Young trees will grow from eight to ten feet in height in one season. I could learn nothing of its fruitfulness, nor praise of its quality for table fruit.

The Fig, Olive, Date, Almond and many other tropical fruits are grown here.

The Grape culture here is but in its first beginning. They have a native called "Scuppernong," which reaches its southern line only in tropical portions of the State, and its value as a wine producing grape is fully recognized. This industry has already passed out of the domestic stage and attained a commercial importance which seems assured. From what I saw and heard I have no doubt but foreign grapes can be grown successfully, and such greenhouse grapes as "Black Hamburg" and the "Frontignan." As we have now discussed the more important fruits that grow on the peninsula we will now relate as well as we can how they appeared to us in orchard and grove.

As tropical fruits were to be considered more fully as shown *here*, very little has been said concerning fruits grown in the Middle and Northern States, and that will account for the dearth of matter concerning them in this report. The delegates were given free passes on the railroads all over the State, for ten days to be made up in parties of fifteen or twenty members, with some railroad officials accompanying them.

The society held eight sessions: three on Wednesday, three on Thursday and two on Friday. The time was largely taken up by the consideration of the papers announced in the programme.

The society suggested, in the form of a resolution, that the agricultural experimental stations throughout the Union, should give special attention to the raising of seedling fruits, upon the most approved and scientific principles, for dissemination in their respective localities; and that originators of new varieties of fruits be requested to send specimens of their plants to the agricultural experimental stations, to be tested for their adaptation to the localities wherein the stations are located, and that the results of such tests be published in the station reports.

The interest in the exhibit centered in the award of the "Wilder" medals, which are only given where exceptional merit is shown. Silver "Wilder" medals were awarded to Lake county, Shipper's Union, Marion county, Sumter county, Lee

county, Rev. Lyman Phelps, Mr. E. H. Hart and Mr. Dudley W. Adams.

Gold "Wilder" medals were awarded Citrus county, Polk and Volusia counties, Mayor O. P. Rooks and Mr. E. S. Hubbard.

The place of the next meeting was discussed. Chicago seemed to be the choice of the members present, but the matter was left to the executive committee.

Friday the 22d, at one o'clock, the Pomological Society brought their meeting to a close, and by invitation of Mr. Harris at two o'clock we all took the cars to visit his grove situated in Citra, about twenty miles north of Ocala. This is the largest grove in the State. It entitles the owner to the name of "Orange King." It contains one hundred and ninety acres, and puts upon the market this year fifty-three thousand boxes, which would fill one hundred and seventy-six cars. It was a sight to behold. Five acres were left unpicked, I suppose purposely, for *the Pomological fellows.* It was said to Peter of old, "rise, kill and eat;" to us it was said, "pick and eat," and we obeyed the command without a murmur. Bishop Hoyt's grove of one hundred and fifty acres is separated from this by a railroad. These groves are about twenty years old, say twenty to thirty feet high, on hommock land; they have required no fertilizer, or very little; clean culture prevails. We found in this grove a "Scuppernong" grape vine, which measured fifteen inches in diameter. It grew upon a very large tree, sixty feet before you reached a limb. Some one remarked, which supports, the tree or vine?

The next day we spent the morning at Silver Springs, which is a wonderful sight; a river formed by one opening of springs welling such a wonderful quantity of water, so large and deep that large vessels and steamboats could come close to the banks at the head of the spring, and sail nine miles into the Ocklawaha river, and so clear that at a depth of forty feet a ten cent piece could be seen. This delightful tour was continued through most of the orange growing belt of the State, with this conclusion, that the peninsula of Florida is well adapted for growing of citrus fruits.

Another industry was brought to our notice, that of sugar. This is looked upon so favorably that a company has been

formed, who have bought a million acres in Osceola, Polk and Desoto counties, and have a thousand acres in sugar cane this year. The president of the company, who had been engaged in the sugar planting in Louisiana, claimed that the sugar cane raised in Florida was the better of the two. He reports forty tons to the acre, one hundred and eighty pounds to the ton.

For the first time in the history of the American Pomological Society, it has turned aside from its former custom of holding its sessions in September, to meet the wants of the Middle and Northern States, to join with an extreme Southern State, and be introduced to her pomological claims upon this organization. What she has shown in her infancy argues well for her future.

Which is respectfully submitted.

F. M. MARBLE.

OFFICERS AND COMMITTEES
OF THE
WORCESTER COUNTY HORTICULTURAL SOCIETY,
FOR THE YEAR 1889-90.

PRESIDENT:
HENRY L. PARKER, of Worcester.

VICE-PRESIDENTS:
STEPHEN SALISBURY, of Worcester; GEORGE E. FRANCIS, of Worcester; H. F. A. LANGE, of Worcester.

SECRETARY:
EDWARD WINSLOW LINCOLN, of Worcester.

LIBRARIAN AND TREASURER:
CHARLES E. BROOKS, of Worcester.

TRUSTEES (BY ELECTION):

George Cruickshanks,	Lunenburg.	Henry Phelps,	Washington, D. C.
O. B. Wyman,	Shrewsbury.	David L. Fiske,	Grafton.
Charles E. Parker,	Holden.	Henry B. Watts,	Leicester.
Frederick A. Blake,	Rochdale.	J. Henry Hill,	Worcester.
James F. Allen,	Worcester.	Joseph W. Powers,	"
Henry Woodward,	"	James Draper,	"
William T. Merrifield,	"	F. M. Marble,	"
William H. Earle,	"	Luther R. Eames,	"
H. M. Quinby,	"	Calvin L. Hartshorn,	"
Samuel Flagg,	"	Joseph Lovell,	"
Frank J. Kinney,	"	Frederic G. Stiles,	"
John C. Newton,	"	Edwin Morse,	"
Emory Banister,	"	John Midgley,	"
John D. Lovell,	"	S. H. Record,	"
George F. Hoar,	"	Adin A. Hixon,	"
George Calvin Rice,	"	Simon E. Fisher,	"
O. B. Hadwen,	"	John L. Peters,	"
William Eames,	"	Mrs. Daniel Tainter,	"
Sylvanus Sears,	"	Mrs. John H. Coes,	"
Joseph Brierly,	"	Mrs. T. L. Nelson,	"
Thomas A. Dawson,	"	Mrs. Thomas Ward,	"
Charles Greenwood,	"	Mrs. F. H. Merrifield,	"

STANDING COMMITTEES.

ON FINANCE:
George E. Francis, 1890. Edward W. Lincoln, 1891. Nathaniel Paine, 1892.

ON LIBRARY AND PUBLICATION:
Edward W. Lincoln, Charles E. Brooks, George E. Francis.

ON NOMENCLATURE:
James F. Allen, George E. Francis, Hermann F. A. Lange, O. B. Hadwen, James Draper, F. M. Marble, Charles Greenwood, Edward W. Lincoln.

ON ARRANGEMENTS AND EXHIBITIONS:
James Draper, *Chairman.*
Charles E. Brooks, Calvin L. Hartshorn, Hermann F. A. Lange, O. B. Hadwen, Adin A. Hixon, Charles Greenwood, F. M. Marble, O. B. Wyman, Charles E. Parker, William H. Earle, H. B. Watts, J. L. Peters, George C. Rice, Edward Hall, William H. Johnson, with *President* Parker, and *Secretary* Lincoln.

AUDITORS.

Henry L. Parker, George Calvin Rice.

JUDGES.

ON FLOWERS, PLANTS, ETC.:
William H. Johnson.

ON FRUITS, ETC.:
James Draper.

ON VEGETABLES, ETC.:
Charles Greenwood.

SCHEDULE OF PREMIUMS

OFFERED BY THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY,

FOR THE YEAR

1889.

The attention of Exhibitors is particularly called to the Rules and Regulations, General and Special.

Worcester, Mass.
CHARLES HAMILTON, PRINTER,
311 MAIN STREET,
1889.

COMMITTEE

ON

ARRANGEMENTS AND EXHIBITIONS.

James Draper, *Chairman.*

Calvin L. Hartshorn,
Adin A. Hixon,
Newell Wood,
O. B. Hadwen,
F. M. Marble,
O. B. Wyman,
Charles E. Parker,
William H. Earle,
Charles E. Brooks,
Hermann F. A. Lange,
Charles Greenwood,
H. B. Watts,
J. L. Peters,
George C. Rice,
Edward Hall.

President, - - Henry L. Parker.

Secretary, Edward W. Lincoln,
Nos. 5 Oak and 18 Front Sts.

JUDGES OF AWARD.

Flowers, Plants, Etc.—William H. Johnson.
Fruits, Etc.—James Draper.
Vegetables, Etc.—Charles Greenwood.

COMMITTEE ON NOMENCLATURE.

James F. Allen,
Hermann F. A. Lange,
George E. Francis,
O. B. Hadwen,
James Draper,
Charles Greenwood,
F. M. Marble,
Edward W. Lincoln.

GENERAL RULES FOR ALL EXHIBITIONS.

A. Strict conformity to the Regulations and Rules will be expected and required, as well for the benefit of Exhibitors as for the convenience of the Officers of the Society.

B. Correct and legible names must be attached to each and every Flower or Plant entered in a class of named varieties.

C. All articles offered for premium must remain within the Hall throughout the hours of Exhibition, unless special permission for their removal shall be granted by the Committee on Exhibitions, etc.

D. All *Small Fruits* must be entered in boxes or baskets (except in the case of Strawberries and Currants, which are to be shown "*flat*"); but they may be displayed subsequently in plates or dishes, at the taste of the exhibitor.

E. No person can compete for more than one premium with the same variety of Flower or Fruit; nor can any person take more than one premium under the same number.

F. The Judges may correct, before the close of any Exhibition, awards made by them, if satisfied that such were erroneous.

G. The cards of competitors shall be put, reversed, beneath the plates; and the Judges of Award shall be excluded from the Hall of Exhibition until the Exhibition itself is ready for judgment.

H. Competitors are expected to conform strictly to the conditions under which articles are invited. Evasion or violation of them may be reported to the TRUSTEES for future disqualification of the offender.

RULES AND REGULATIONS.

1. Exhibitions will be held on March 14, April 18 and May 23. Commencing June 6, there will be Exhibitions every Thursday afternoon until and including October 24, A. D. 1889. The hours of exhibition will be between 3 and 4.30 o'clock. Articles offered for premium must be in the hall by 2.15 o'clock P. M

of the days of exhibition. Between 2.15 and 3 o'clock the Hall will be in exclusive charge of the Secretary, and the Librarian, who will allow no one else to be present. The Judges of Award may be admitted under the limitations of GENERAL RULE G.

2. Competition for premiums is open to all; but a discount of one-third of the amount will be made from awards to persons who are not members of the Society; and it is strictly required that all specimens offered for premium shall have been grown by the competitors, on their own premises, *within the County of Worcester*, for a period of at least one (1) month previous to the date of exhibition.

3. After the articles are arranged they will be under the exclusive charge of the Judges, and *not even the owners* will have liberty to *remove* them until the exhibition is closed; when they will be delivered as the contributors may direct.

4. No cards of a business nature will be allowed in any Exhibition.

5. Where a certain number or quantity of Plants, Flowers, Fruits or Vegetables is designated in the schedule, there must be neither more nor less than that number or quantity of specimens shown; and in no case can any other varieties than those named in the schedule be substituted.

6. It will be the duty of the Judges to *exclude from competition all inferior specimens*. Also, all such *Designs*, as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making Awards, will especially regard uniformity in size, symmetry of form, and beauty in color.

7. The Committee of Arrangements have power to change the time of exhibition for any article, if an earlier or later season renders such change necessary; and the Secretary is requested to give notice of one week, in some daily paper, and also at the preceding Exhibition, when a change in the Schedule is proposed.

8. All articles offered for premiums must be correctly named. Indefinite appellations such as "Pippin," "Sweeting," "Green-

ing," etc., will not be considered as names. Any person exhibiting the same variety of Fruit or Vegetables, under different names, or exhibiting as grown by himself, Flowers, Fruit, or Vegetables grown by another, thereby violating the objects and rules of the Society, shall be debarred from competing for the Society's premiums until reinstated.

9. No Flowers, Plants, Fruits or Vegetables will be entitled to a premium unless they possess points of superiority; and the Judges are *strictly required* to withhold premiums if, in their opinion, the articles exhibited do not merit them; nor shall any specimen for which a premium has been once awarded, receive another during the season.

10. Competitors will be required to furnish information as to their mode of cultivation, and to present specimens, for trial and examination, if requested.

11. In all exhibitions of Cut Flowers, for competition, the use of foliage must be restricted to that of the varieties shown; and not more than three blooms, clusters or spikes, all which shall be of one color, and of one variety, shall be allowed in the same bottle, or vase, except when otherwise specified in the schedule.

12. No Judge shall award a premium or gratuity in any case wherein he is a competitor, or has an actual or resultant interest; in any such case the judgment shall be rendered by any three of the Committee on Arrangements and Exhibitions whom the Judge shall invite.

13. No Judge shall require anything of competitors respecting their exhibits, which is not distinctly specified in the schedule. No Flowers, Fruits, etc., etc., shall be put on the tables, for competition for premiums, by any person who is a judge as to the awards to be made for Fruits, Flowers, etc., etc.

14. The standard number required for an exhibit, whether of Fruits or Vegetables, will be twelve (12); unless otherwise specifically declared. The usual limit of measure, save for Small Fruits, will be a half-peck.

16. All premiums that are not claimed within three months after the close of the official year shall be forfeited to the Society.

16. The awards will be made known as soon as the cards can be filled out and placed upon the tables.

17. "Downing's Fruits of America," revised edition, will guide the Judge of Fruits in his decisions upon matters at issue.

☞ The Judges are authorized by the Trustees, to invite the assistance of competent and discreet persons in the discharge of their duties.

FLOWERS, PLANTS, FRUITS & VEGETABLES.

A. D. 1889.

☞ The Committee on Arrangements and Exhibitions would direct the earnest attention of the Judges to *Rule 6!*

6. *It will be the duty of the Judges to exclude from competition all inferior specimens. Also, all such designs as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making awards, will especially regard uniformity in size, symmetry of form, and beauty in color.*

FLORAL. Special Rule.—In all cases where dimensions are prescribed for exhibits, the measure shall be understood to be that of the flowers, solely; never admitting the basket, foliage, or any garniture of green.

Thursday, March 14.

☞ The Committee on Arrangements and Exhibitions *will meet at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

HYACINTH,—in bloom.—

No. 1.	Six plants, four premiums	$3 00	2 00	1 00	50
No. 2.	One plant, two premiums			1 00	50

PRIMULA SINENSIS,—in bloom.—

No. 3.	Four plants, four premiums	$3 00	2 00	1 00	50
No. 4.	One plant, two premiums			1 00	50

CINERARIA,—in bloom.—

No. 5.	Four plants, distinct in color, four premiums	$3 00	2 00	1 00	50

CYCLAMEN,—IN BLOOM.—

No. 6.	Four plants, four premiums	$3 00	2 00	1 00	50
No. 7.	One plant, three premiums		1 50	1 00	50

ARUM (RICHARDIA),—IN BLOOM.—

No. 8.	Best collection; grown in a pot, or tub, not exceeding 16 in. in diameter, four premiums	$3 00	2 00	1 00	50
No. 9.	One bloom, with foliage (the largest), two premiums			1 00	50

CUT FLOWERS.—

No. 10.	Twenty blooms or clusters, in vases, four premiums	$3 00	2 00	1 00	50

BOUQUET—(HAND).—

No. 11.	Not more than 9 in. in diameter, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 12. Any variety, named, gratuity.

PEAR.—

No. 13. Any variety, named, gratuity.

VEGETABLE.—

CABBAGE,

No. 14.	Brunswick, 3 specimens, three premiums	$1 50	1 00	50	
No. 15.	Savoy, 3 specimens, three premiums	$1 50	1 00	50	
No. 16.	Red Dutch, 3 specimens, three premiums	$1 50	1 00	50	

CELERY,

No. 17.	Six specimens, three premiums	$1 50	1 00	50	

SQUASH,

No. 18.	Marblehead, 3 specimens, three premiums	$1 50	1 00	50	
No. 19.	Hubbard, 3 specimens, three premiums	$1 50	1 00	50	

TURNIP,

No. 20. Swede, Yellow, 6 specimens, three premiums $1 50 1 00 50

No. 21. Swede, White, 6 specimens, three premiums $1 50 1 00 50

No. 22. White Egg, 12 specimens, three premiums $1 50 1 00 50

BEET,

No. 23. Turnip, three premiums $1 50 1 00 50

CARROT,

No. 24. Intermediate, three premiums $1 50 1 00 50

LETTUCE,

No. 25. Six heads, three premiums $2 00 1 50 1 00

Thursday, April 18.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS—BASKET.—

No. 26. For the best round basket, on stand, not to exceed 15 inches in diameter, 4 premiums $3 00 2 00 1 00 50

ZONALE GERANIUM,—IN BLOOM.—

No. 27. Four plants, distinct in color, 4 premiums $3 00 2 00 1 00 50

AZALEA INDICA,—IN BLOOM.—

No. 28. Three plants, four premiums $5 00 3 00 2 00 1 00

No. 29. One plant, two premiums 3 00 2 00

BEGONIA,—IN BLOOM.—

No. 30. One plant, four premiums $3 00 2 00 1 00 50

CUT FLOWERS.

No. 31. Twenty vases, not to exceed 5 blooms or clusters in each, four premiums $3 00 2 00 1 00 50

HYACINTHS.—

No. 32. Twelve pots in not less than 6 varieties, three premiums $4 00 3 00 2 00

NARCISSUS,—DISPLAY.—

No. 33. Three premiums $4 00 3 00 2 00

TULIPS.—

No. 34. Six pots, in not less than three varieties, three premiums $4 00 3 00 2 00

APPLE.—

No. 35. Any variety, named, gratuity.

PEAR.—

No. 36. Any variety, named, gratuity.

VEGETABLE.—

HORSE RADISH,

No. 37. Three premiums $1 50 1 00 50

PARSNEP,

No. 38. (Student), three premiums 1 50 1 00 50

No. 39. (Hollow Crown), three premiums 1 50 1 00 50

RADISH,

No. 40. Two bunches (6 in each bunch), three premiums 1 50 1 00 50

SALSIFY,

No. 41. Three premiums 1 50 1 00 50

LETTUCE,

No. 42. Six heads, four premiums 2 00 1 50 1 00 50

RHUBARB,

No. 43. Same variety, three premiums.....1 50 1 00 50

DANDELION (cultivated),

No. 44. One half-peck, three premiums 1 50 1 00 50

SPINACH,

No. 45. One half-peck, three premiums 1 50 1 00 50

Thursday, May 23.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at* 3½ *o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

PANSY,—NO DUPLICATES.—

No. 46. One stand, one spike in a vial, four premiums.....$3 00 2 00 1 00 50

PLANTS,—IN BLOOM.—

No. 47. Six plants, distinct in color, exhibited in pots, four premiums..$3 00 2 00 1 00 50

BOUQUET,—HAND.—

No. 48. Not to exceed 9 inches in diameter, four premiums.....$3 00 2 00 1 00 50

BULBS AND TUBERS—(HARDY)—OPEN CULTURE.—

No. 49. Display, in vases (no duplicates), four premiums.....$3 00 2 00 1 00 50

HYACINTH,—OPEN CULTURE.—

No. 50. Display, in vases (no duplicates), four premiums.....$3 00 2 00 1 00 50

PELARGONIUM—(FANCY AND SHOW)—IN BLOOM.—

No. 51. Four plants, of distinct varieties, four premiums.....$3 00 2 00 1 00 50

TULIP,—OPEN CULTURE.—

No. 52.	Display, in vases (no duplicates), four premiums	$3 00	2 00	1 00	50

CUT FLOWERS.—

No. 53.	Stand, four premiums	$3 00	2 00	1 00	50
No. 54.	Basket, oval, with handle on stand, not to exceed 15 in., four premiums	$3 00	2 00	1 00	50

AZALEA—(MOLLIS).—

No. 55.	For the best display in vases, four premiums	$3 00	2 00	1 00	50

VEGETABLE.—

RADISH,

No. 56.	Three premiums	$1 50	1 00	50	

ONION (bunched),

No. 57.	Two bunches, six in each bunch, three premiums	$1 50	1 00	50	

RHUBARB,

No. 58.	Linnæus, three premiums	$1 50	1 00	50	
No. 59.	Victoria, three premiums	$1 50	1 00	50	

ASPARAGUS,

No. 60.	Two bunches, three premiums	$1 50	1 00	50	

DANDELION,

No. 61.	Cultivated, half-peck, three premiums	$1 50	1 00	50	

SPINACH,

No. 62.	Half-peck, three premiums	$1 50	1 00	50	

Thursday, June 6.

☞ *The* Committee on Arrangements and Exhibitions *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS.—distinct.—

No. 63.	One Stand—(the varieties of any species must not exceed three), four premiums	$3 00	2 00	1 00	50
No. 64.	One Vase,—the specimens not to be tied or wired, three premiums		2 00	1 00	50

IRIS.—

No. 65.	Ten vases, four premiums	$3 00	2 00	1 00	50

CLEMATIS.—

No. 66.	Display, in vases, two premiums			$2 00	1 00

FUCHSIA,—distinct varieties.—

No. 67.	Four plants in bloom, four premiums	$3 00	2 00	1 00	50

RHODODENDRON.—

No. 68.	Display, in vases, four premiums	$3 00	2 00	1 00	50

AZALEA—Ghent.—

No. 69.	Display, in vases, four premiums	$3 00	2 00	1 00	50

CUT FLOWERS.—

No. 70.	From hardy plants and shrubs, display not to exceed 25 vases, four premiums	$3 00	2 00	1 00	50

VEGETABLE.—

Asparagus,

No. 71.	Two bunches, three premiums	$1 50	1 00	50	

Cucumber,

No. 72.	Three specimens, three premiums	$1 50	1 00	50	

Spinach,

No. 73.	Half-peck, three premiums	$1 50	1 00	50	

Thursday, June 13.

HYDRANGEA,—ONE PLANT, IN BLOOM.—

No. 74.	Hortensis, three premiums	$2 00	1 00	50	
No. 75.	Otaksa, three premiums	2 00	1 00	50	
No. 76.	Thomas Hogg, three premiums	2 00	1 00	50	

BASKET.—Oval, flat, not to exceed 18 inches.

No. 77.	AMATEUR,—four premiums	$3 00	2 00	1 00	50
No. 78.	FLORIST,—four premiums	3 00	2 00	1 00	50

BOUQUET—PARLOR.—

No. 79.	AMATEUR—four premiums	$3 00	2 00	1 00	50
No. 80.	FLORIST,—four premiums	3 00	2 00	1 00	50

STRAWBERRY.—

No. 81. Any variety, gratuity.

VEGETABLE.—

PEA,

No. 82.	One half-peck, four premiums	$2 00	1 50	1 00	50

LETTUCE,

No. 83.	Six heads, three premiums		1 50	1 00	50

Thursday, June 20.

☞ This exhibition open to the public from 3 P. M. until 9 P. M. Admission 10 cents.

ROSES.—

[TO BE SHOWN IN THE VASES OF THE SOCIETY.]

No. 84.	For the best twelve blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums	$4 00	3 00	2 00	1 00

No. 85.	For the best six blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums	3 00	2 00	1 00	50
No. 86.	For the best stand of Roses, four premiums	3 00	2 00	1 00	50
No. 87.	Moss Roses. Best display, four premiums	3 00	2 00	1 00	50
No. 88.	For the best basket or dish of Roses, three premiums		2 00	1 00	50
	Digitalis. (Foxglove).				
No. 89.	Display, three premiums		$2 00	1 00	50
	Campanula Media. (Canterbury Bell).				
No. 90.	Display, three premiums		$2 00	1 00	50
	Dianthus Barbatus. (Sweet William).				
No. 91.	Display (no duplicates), four premiums	$3 00	2 00	1 00	50

STRAWBERRY.—

No. 92.	Charles Downing, 24 berries, flat, four premiums	$2 00	1 50	1 00	50
No. 93.	Crescent, 24 berries, flat, three premiums		1 50	1 00	50
No. 94.	Sharpless, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 95.	Other varieties, not scheduled, 24 berries, flat, gratuity.				

VEGETABLE.—

Pea,

No. 96.	Any variety, named, one-half peck, three premiums	$2 00	1 50	1 00	

Beet,

No. 97.	Early, 12 specimens, three premiums		1 50	1 00	50

Thursday, June 27.

LILIUM.—

No. 98.	Ten vases, four premiums.....	$3 00	2 00	1 00	50

CUT FLOWERS.—

No. 99.	For the best arranged stand, without restriction as to foliage, varieties, or quantity of flowers, four premiums.....	$3 00	2 00	1 00	50

PÆONIA.—

No. 100.	Twenty vases, four premiums ...	$3 00	2 00	1 00	50

HARDY FLOWERS.—Biennials and Perennials.—

No. 101.	Display, not to exceed 25 vases, four premiums.....	$3 00	2 00	1 00	50

STRAWBERRY.—

No. 102.	Jewell, 24 berries, flat, three premiums		$1 50	1 00	50
No. 103.	Bidwell, 24 berries, flat, three premiums.....		1 50	1 00	50
No. 104.	Jersey Queen, 24 berries, flat, three premiums		1 50	1 00	50
No. 105.	Jucunda, 24 berries, flat, three premiums.....		1 50	1 00	50
No. 106.	Manchester, 24 berries, flat, three premiums.....		1 50	1 00	50
No. 107.	Miner, 24 berries, flat, three premiums		1 50	1 00	50
No. 108.	Triomphe de Gand, 24 berries, flat, three premiums.....		1 50	1 00	50
No. 109.	Other varieties, not scheduled, 24 berries, flat, gratuity.				

VEGETABLE.—

Bean (Snap),

No. 110.	Green Pod, one-half peck, three premiums.....		$2 00	1 50	1 00

PEA,

No. 111.	McLean's Advancer, one-half peck, three premiums.....	$2 00	1 50	1 00

BEET,

No. 112.	Turnip-rooted, 12 specimens, three premiums.....	$1 50	1 00	50

Thursday, July 11.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at* 3½ *o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

ZONALE GERANIUM.—

No. 113.	For the best stand, 1 truss in a vial, four premiums	$3 00	2 00	1 00	50
No. 114.	LILIUM CANDIDUM. 12 spikes, four premiums.....	$3 00	2 00	1 00	50

GLOXINIA,—POTS.—

No. 115.	Six varieties, in bloom, four premiums.....	$3 00	2 00	1 00	50

CUT FLOWERS.—DISTINCT VARIETIES.—

No. 116.	24 vases, four premiums.....	$3 00	2 00	1 00	50

CURRANT.—

No. 117.	Fay, 24 bunches, three premiums		1 50	1 00	50
No. 118.	Versaillaise, 24 bunches, four premiums.....	$2 00	1 50	1 00	50
No. 119.	Red Dutch, 24 bunches, four premiums.....	$2 00	1 50	1 00	50
No. 120.	White Dutch, 24 bunches, three premiums.....		1 50	1 00	50
No. 121.	White Grape, 24 bunches, three premiums.....		1 50	1 00	50

No. 122. Other varieties, not scheduled, gratuity.

RASPBERRY.—

No. 123.	Brincklé's Orange, one quart, three premiums	$1 50	1 00	50
No. 124.	Cuthbert, one quart, three premiums	1 50	1 00	50
No. 125.	Hornét, one quart, three premiums	1 50	1 00	50
No. 126.	Brandywine, one quart, three premiums	1 50	1 00	50
No. 127.	Hansell, one quart, three premiums	1 50	1 00	50
No. 128.	Turner, one quart, three premiums	1 50	1 00	50
No. 129.	Hudson River Antwerp; one quart, three premiums	1 50	1 00	50
No. 130.	Northumberland, one quart, three premiums	1 50	1 00	50
No. 131.	Marlboro', one quart, three premiums	1 50	1 00	50

No. 132. Other varieties, not scheduled, gratuity.

RASPBERRY.—Blackcap.—

No. 133.	Davison, one quart, two premiums		$1 00	50
No. 134.	Doolittle, one quart, two premiums		1 00	50
No. 135.	Souhegan, one quart, two premiums		1 00	50
No. 136.	Gregg, one quart, two premiums		1 00	50
No. 137.	Mammoth Cluster, one quart, two premiums		1 00	50

No. 138. Other varieties, not scheduled, gratuity.

CHERRY.—

No. 139.	Any variety, named, one quart, four premiums	$2 00	1 50	1 00	50

STRAWBERRY.—

No. 140. Any variety, 24 berries, flat, gratuity.

VEGETABLE.—

Pea,

No. 141.	Stratagem, three premiums	$2 00	1 50	1 00
No. 142.	Yorkshire Hero, three premiums	2 00	1 50	1 00
No. 143.	Champion of England, three premiums	2 00	1 50	1 00

No. 144. Other varieties, not scheduled, gratuity.

CABBAGE,

No. 145. Three specimens, gratuity.

POTATO,

No. 146. Any named variety, 12 specimens, three premiums.....$2 00 1 50 1 00

BEAN,

No. 147. Wax—(snap), three premiums..... 2 00 1 50 1 00

Thursday, July 18.

CUT FLOWERS,—SEEDLINGS OF 1888.

No. 148. Stand, four premiums.....$3 00 2 00 1 00 50

BASKET.—Round, flat, not to exceed 18 in. in diameter.

No. 149. AMATEUR—four premiums.....$3 00 2 00 1 00 50

No. 150. FLORIST—four premiums..... 3 00 2 00 1 00 50

PETUNIA,—One spray in each vial.

No. 151. Stand, four premiums.....$3 00 2 00 1 00 50

IRIS KÆMPFERI.—

No. 152. 20 vases, 1 spike in each vase, four premiums.....$3 00 2 00 1 00 50

RASPBERRY.—

No. 153. Any variety, one quart, gratuity.

VEGETABLE.—

CABBAGE,

No. 154. Brunswick, three specimens, three premiums.....$1 50 1 00 50

No. 155. Henderson, three premiums..... 1 50 1 00 50

SQUASH,

No. 156.	Three Summer Crookneck, two premiums		$1 00	50
No. 157.	Three Scallop, two premiums		1 00	50

TOMATO,

No. 158.	Any named variety, three premiums	$2 00	1 50	1 00	

Thursday, July 25.

BOUQUET,—PARLOR.—Not to exceed 15 in. from base to tip.

No. 159.	AMATEUR,—four premiums	$3 00	2 00	1 00	50
No. 160.	FLORIST,—four premiums	3 00	2 00	1 00	50

PHLOX DRUMMONDI.—

No. 161.	Stand, four premiums	$3 00	2 00	1 00	50

HOLLYHOCK.—

No. 162.	Twenty blooms in vases, four premiums	$3 00	2 00	1 00	50

SWEET PEA.—

No. 163.	Stand, not exceeding twelve stems in a vial, four premiums	$3 00	2 00	1 00	50

BLACKBERRY.—

No. 164.	Agawam, one quart, two premiums		$1 00	50
No. 165.	Early Harvest, one quart, two premiums.		1 00	50

GOOSEBERRY.—

No. 166. One quart, of any named variety, gratuity.

PEAR.—

No. 167.	D'Eté, three premiums	$1 50	1 00		50

VEGETABLE.—

BEAN,

No. 168.	Dwarf Horticultural (shell), half-peck, three premiums	$1 50	1 00	50	
No. 169.	Any other (named) variety, three premiums	1 50	1 00	50	

CORN,

No. 170.	(Sweet), four premiums	$2 00	1 50	1 00	50

POTATO,—12 specimens.

No. 171.	Hebron, three premiums	$1 50	1 00	50	
No. 172.	Maine, three premiums	1 50	1 00	50	
No. 173.	Pearl of Savoy, three premiums	1 50	1 00	50	
No. 174.	Potentate, three premiums	1 50	1 00	50	
No. 175.	Rose, three premiums	1 50	1 00	50	
No. 176.	Sunrise, three premiums	1 50	1 00	50	

Thursday, August 1.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS,—DISTINCT VARIETIES, NAMED.—

No. 177.	Twenty blooms, or clusters, in vases, four premiums	$3 00	2 00	1 00	50

BASKET—NO LIMIT OR RESTRICTIONS.—

No. 178.	AMATEURS,—four premiums	$3 00	2 00	1 00	50
No. 179.	FLORIST,—four premiums	3 00	2 00	1 00	50

APPLE.—

No. 180. Any variety, gratuity.

PEAR.—

No. 181. Any variety, not scheduled, gratuity.

BLACKBERRY.—

No. 182.	Kittatinny, one quart, two premiums..		$1 00	50
No. 183.	Snyder, one quart, two premiums....		1 00	50
No. 184.	Wachusett, one quart, two premiums..		1 00	50
No. 185.	Other varieties, not scheduled, gratuity.			

VEGETABLE.—

CORN,

No. 186.	Crosby, three premiums.....	$2 00	1 50	1 00

CUCUMBER,

No. 187.	Three specimens, two premiums....		1 00	50

TOMATO,

No. 188.	Acme, three premiums.....	1 50	1 00	50

Thursday, August 8.

ANTIRRHINUM,—SNAP DRAGON.—

No. 189.	Stand, four premiums.....	$3 00	2 00	1 00	50

GERMAN STOCKS.—

No. 190.	Stand, four premiums.....	$3 00	2 00	1 00	50

BEGONIA—(TUBEROUS-ROOTED).—IN BLOOM.—

No. 191.	Six plants, in pots, four premiums	$3 00	2 00	1 00	50

PINK.—(ALL KINDS).—

No. 192.	Stand, four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 193.	Sweet Bough, three premiums..		$1 50	1 00	50
No. 194.	Astrachan (Red), four premiums	2 00	1 50	1 00	50
No. 195.	Tetofsky, three premiums.....		1 50	1 00	50

PEAR.—

No. 196.	Giffard, four premiums.....	$2 00	1 50	1 00	50

PEACH.—

No. 197. Any variety, gratuity.

VEGETABLE.—

BEAN (shell),

No 198.	Concord, half-peck, in pods, three premiums	$1 50	100		50

TOMATO,

No. 199.	Livingston's Perfection, three premiums	1 50	1 00		50

Thursday, August 15.

CUT FLOWERS.—

No. 200.	Stand, four premiums	$3 00	2 00	1 00	50

GLADIOLUS—(DISTINCT VARIETIES.)—NAMED.

No. 201.	Twenty vases, 1 spike in each, four premiums	$4 00	3 00	2 00	1 00

SALPIGLOSSIS.—

No. 202.	Stand, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 203.	Oldenburg, four premiums	$2 00	1 50	1 00	50
No. 204.	Any variety, not scheduled, gratuity.				

APRICOT.—

No. 205.	Any variety, gratuity			$1 00	50

PEAR.—

No. 206.	Clapp, five premiums	$3 00	2 00	1 50	1 00	50

PEACH.—

No. 207.	Alexander, three premiums	$1 50	1 00		50
No. 208.	Beatrice, three premiums	1 50	1 00		50
No. 209.	Cole's Early Red, two premiums		1 00		50
No. 210.	Rivers, three premiums	1 50	1 00		50

VEGETABLE.—

SQUASH,

No. 211.	Marrow, 3 specimens, three premiums.		1 50	1 00	50

TOMATO,

No. 212.	Beauty, three premiums....		1 50	1 00	50

CORN,

No. 213.	(Sweet), 12 ears, of not less than 12 rows, three premiums.....		1 50	1 00	50

Thursday, August 22.

ASTER.—

No. 214.	Rose, 20 vials, 1 bloom in each, three premiums.....		$2 00	1 00	50
No. 215	Hedgehog, 20 vials, 1 bloom in each, three premiums.....		2 00	1 00	50
No. 216.	Cocardeau (Crown), 20 vials, 1 bloom in each, three premiums		2 00	1 00	50
No. 217.	Victoria, 20 vials, 1 bloom in each, three premiums.....		2 00	1 00	50
No. 218.	POMPON, stand, one spray of not more than 6 blooms in each vial, four premiums..... ..	3 00	2 00	1 00	50
No 219.	TRUFFAUT, — PÆONY-FLOWERED, stand, 3 blooms in each vial, four premiums.....	3 00	2 00	1 00	50

GLADIOLUS—HARDY—LEMOINE'S HYBRIDS.

No. 220.	Twenty vases, one spike in each, four premiums.....	$3 00	2 00	1 00	50

PHLOX—PERENNIAL.—

No. 221.	20 vases, four premiums.....	3 00	2 00	1 00	50

APPLE.—

No. 222.	Somerset, three premiums.....		$1 50	1 00	50
No. 223.	Williams, four premiums.....	2 00	1 50	1 00	50

PEAR.—

No. 224.	Rostiezer, three premiums....	$1 50	1 00	50
No. 225.	Tyson, three premiums.....	1 50	1 00	50

PEACH.—

No. 226.	Hale, three premiums.....	$1 50	1 00	50

VEGETABLE.—

BEAN—(HALF-PECK IN POD.)—

No. 227.	Horticultural (pole), three premiums..	$1 50	1 00	50
No. 228.	Goddard, three premiums.....	1 50	1 00	50

SQUASH—TURBAN,

No. 229.	3 specimens, three premiums.....	2 00	1 50	1 00

Thursday, August 29.

SCABIOSA.—

No. 230.	Stand, not exceeding six flowers in a vial, four premiums.....	$3 00	2 00	1 00	50

ZINNIA.—

No. 231.	Stand, at least twelve varieties, one flower in a vial, four premiums	$3 00	2 00	1 00	50

LILIUM SPECIOSUM.—

No. 232.	Display, in vases, four premiums	$3 00	2 00	1 00	50

MARIGOLD.—

No. 233.	Stand, four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 234. Any variety, not scheduled, gratuity.

APPLE—(Crab).—

No. 235.	Transcendent, 24 specimens, three premiums	$1 50	1 00	50	

NECTARINE.—

No. 236.	Any variety, two premiums		$1 00	50	

PEAR.—

No. 237.	Assomption, three premiums	$1 50	1 00	50	
No. 238.	Petite Marguerite, three premiums	1 50	1 00	50	

PEACH.—

No. 239.	Cooledge, two premiums		$1 00	50	
No. 240.	George IV., two premiums		1 00	50	
No. 241.	Foster, two premiums		1 00	50	
No. 242.	Richmond, two premiums		1 00	50	

PLUM.—

No. 243.	Bradshaw, three premiums	$1 50	1 00	50	
No. 244.	McLaughlin, three premiums	1 50	1 00	50	
No. 245.	Washington, three premiums	1 50	1 00	50	

VEGETABLE.—

Lima Beans,

No. 246.	Large, half-peck, three premiums	$1 50	1 00	50	

Cauliflower,

No. 247.	Three specimens, three premiums	2 00	1 50	1 00	

Tomato,

No. 248.	Any variety, not scheduled, three premiums	1 50	1 00	50	

Thursday, September 5.

☞ *The* Committee on Arrangements and Exhibitions *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS.—

No. 249.	Stand, four premiums	$3 00	2 00	1 00	50

BOUQUET—(PARLOR).—

No. 250.	Amateur,—four premiums.....	$3 00	2 00	1 00	50
No. 251.	Florist,—four premiums.....	3 00	2 00	1 00	50

DAHLIA.—

Large-Flowered,

No. 252.	Twenty vases, one flower in each, four premiums.....	$3 00	2 00	1 00	50

Pompon,

No. 253.	Twenty vases, one spray in each, four premiums...	3 00	2 00	1 00	50

Single,

No. 254.	Twenty vases, one spray in each, three premiums..... ...		1 50	1 00	50

NASTURTIUM AND TROPÆOLUM.—

No. 255.	Stand, best varieties, not more than twelve blooms in each bottle, four premiums.....	$3 00	2 00	1 00	50

CLEMATIS.—

No. 256.	Display, in vases, two premiums,			$2 00	1 00

VERBENA.—

No. 257.	Stand, four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 258.	Worcester Spy, three premiums.....		$1 50	1 00	50
No. 259.	Other varieties, not scheduled, gratuity.				

PEAR.—

No. 260.	Ansault, three premiums.....		$1 50	1 00	50
No. 261.	Earle's Bergamot, three premiums....		1 50	1 00	50
No. 262.	St. Ghislain, four premiums....	2 00	1 50	1 00	50

PEACH.—

No. 263.	Crawford (Early), two premiums.....			$1 00	50
No. 264.	Oldmixon, two premiums.....			1 00	50

PLUM.—

No. 265.	Imperial Gage, three premiums.....	$1 50	1 00	50
No. 266.	Gen. Hand, three premiums.....	1 50	1 00	50
No. 267.	Victoria, three premiums.....	1 50	1 00	50

VEGETABLE.—

CUCUMBER,

No. 268.	Half-peck (for pickles), three premiums,	$1 50	1 00	50

CORN,

No. 269.	(Sweet), 12 ears, of not less than 12 rows, three premiums.....	1 50	1 00	50

PEPPER.—12 specimens.

No. 270.	Squash, two premiums..... ...		$1 00	50
No. 271.	Large Bell, two premiums.....		1 00	50
No. 272.	Mammoth, two premiums..... ...		1 00	50

Thursday, September, 12.

CUT FLOWERS.—DISTINCT VARIETIES.

No. 273.	Twenty vases, one bloom or cluster in each, four premiums.	$3 00	2 00	1 00	50

GERANIUM,—One truss in a vial.

No. 274.	Stand, four premiums.....	$3 00	2 00	1 00	50

PANSY.—WITH FOLIAGE.—

No. 275.	Stand, one spike in each bottle, four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 276.	Golden Sweet, three premiums	$1 50	1 00	50
No. 277.	Garden Royal, three premiums	1 50	1 00	50

PEAR.—

No. 278.	Bartlett, five premiums	$3 00	2 00	1 50	1 00	50
No. 279.	Lucrative, three premiums	1 50	1 00	50
No. 280.	Pratt, three premiums	1 50	1 00	50

PLUM.—

No. 281.	Jefferson, three premiums	$1 50	1 00	50
No. 282.	Lombard, three premiums	1 50	1 00	50
No. 283.	Monroe, three premiums	1 50	1 00	50
No. 284.	Quackenboss, three premiums	1 50	1 00	50
No. 285.	Fellenberg, three premiums	1 50	1 00	50

PEACH.—

No. 286.	Crawford (Early), two premiums	$1 00	50
No. 287.	Oldmixon, two premiums	1 00	50

GRAPE —

No. 288.	Moore's Early, three clusters, three premiums	$1 50	1 00	50
No. 289.	Grown under glass, three clusters, three premiums	3 00	2 00	1 00

MELON.—

No. 290.	Yellow Flesh, three specimens, two premiums	$1 00	50
No. 291.	Green Flesh, three specimens, two premiums	1 00	50

WATER,

No. 292.	Two specimens, two premiums	1 00	50

VEGETABLE.—

CABBAGE,

No. 293.	Brunswick, 3 specimens, three premiums	$1 50	1 00	50

Thursday, September 19.

ASTER.—

No. 294.	Forty vases, four premiums....	$3 00	2 00	1 00	50

CUT FLOWERS—(Basket).—

Not to exceed fifteen inches, oval, with handle, on stand.

No. 295.	Amateur,—four premiums	$3 00	2 00	1 00	50
No. 296.	Florist,—four premiums.....	3 00	2 00	1 00	50

CUT FLOWERS.—Stand.

No. 297.	Four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 298.	Gravenstein, five premiums.....	$3 00	2 00	1 50	1 00	50
No. 299.	Porter, three premiums.....			1 50	1 00	50

Apple.—Crab.—

No. 300.	Hyslop, 24, two premiums.....				$1 00	50

PEAR.—

No. 301.	Durandeau, three premiums.....	$1 50		1 00	50
No. 302.	Paradis d'Automne, four premiums	2 00	1 50	1 00	50
No. 303.	Other varieties, not scheduled, gratuity.				

PEACH.—

No. 304.	Crawford (late), two premiums.....			$1 00	50
No. 305.	Stump the World, two premiums			1 00	50
No. 306.	Other varieties, not scheduled, gratuity.				
No. 307.	New Seedling, originated in Worcester County, three premiums	1 50		1 00	50

PLUM.—

No. 308.	Coe's Golden Drop, three premiums..	$1 50		1 00	50
No. 309.	Reine Claude de Bavay, three premiums	1 50		1 00	50

GRAPE.—

No. 310.	Brighton, three clusters, 3 premiums...	$1 50	1 00	50
No. 311.	Lady, three clusters, three premiums..	1 50	1 00	50
No. 312.	Lindley, three premiums.....	1 50	1 00	50
No. 313.	Massasoit, three clusters, three premiums	1 50	1 00	50
No. 314.	Worden, three clusters, three premiums	1 50	1 00	50

VEGETABLE.—

CARROT,

No. 315.	Any variety, three premiums.... ...	$1 50	1 00	50

EGG PLANT,

No. 316.	Three specimens, three premiums.....	2 00	1 00	50

CABBAGE,

No. 317.	Red, three specimens, three premiums.	1 50	1 00	50
No. 318.	Savoy, three specimens, three premiums	1 50	1 00	50

CAULIFLOWER,

No. 319.	Three specimens, four premiums	2 00	1 50	1 00	50

Thursday, September 26.

CUT FLOWERS.—(BASKET.)—

Not to exceed fifteen in. in diameter, flat, oval.

No. 320.	AMATEUR,—four premiums....	$3 00	2 00	1 00	50
No. 321.	FLORIST,—four premiums	3 00	2 00	1 00	50

CUT FLOWERS.—(STAND).—

No. 322.	Four premiums	$3 00	2 00	1 00	50

GLADIOLUS.—

No. 323.	Display, no duplicates, in vases, four premiums.....	$3 00	2 00	1 00	50

APPLE.—

No. 324.	American Beauty, three premiums....		$1 50	1 00		50
No. 325.	Holden, three premiums.....		1 50	1 00		50
No. 326.	Lyscom, three premiums.....		1 50	1 00		50
No. 327.	McLellan, three premiums....		1 50	1 00		50
No. 328.	Mother, three premiums.....		1 50	1 00		50
No. 329.	Twenty Ounce, three premiums.....		1 50	1 00		50

PEAR.—

No. 330.	Buffum, two premiums.....			$1 00		50
No. 331.	Hardy, three premiums		1 50	1 00		50
No. 332.	Louise Bonne de Jersey, five premiums.....	3 00 2 00	1 50	1 00		50
No. 333.	Seckel, five premiums....	3 00 2 00	1 50	1 00		50
No. 334.	St. Michael Archange, two premiums..			1 00		50
No. 335.	Superfin, three premiums		1 50	1 00		50
No. 336.	Urbaniste, three premiums.....		1 50	1 00		50
No. 337.	Washington, three premiums..		1 50	1 00		50

PEACH.—

No. 338. Any variety, gratuity.

GRAPE.—

No. 339.	Iona, three clusters, three premiums..		$1 50	1 00		50
No. 340.	Concord, three clusters, four premiums	2 00	1 50	1 00		50
No. 341.	Delaware, four premiums.....	2 00	1 50	1 00		50
No. 342.	Pocklington, two premiums....			1 00		50
No. 343.	Niagara, two premiums.....			1 00		50
No. 344.	Salem, three premiums.....		1 50	1 00		50
No. 345.	Wilder, three clusters, three premiums...		1 50	1 00		50
No. 346.	Any variety, not scheduled, gratuity.					

VEGETABLE.—

No. 347.	Collection, not exceeding 50 varieties, four premiums.....	$8 00	6 00	4 00		2 00

Thursday, October 3.

☞ *The* Committee on Arrangements and Exhibitions *will meet, at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS.—

No. 348.	Stand, four premiums	$3 00	2 00	1 00	50
No. 349.	Hand Bouquet, not to exceed 9 in. in diameter, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 350.	Ladies' Sweet, two premiums			$1 00	50
No. 351.	Fameuse, three premiums		1 50	1 00	50
No. 352.	Coggswell, three premiums		1 50	1 00	50
No. 353.	Hubbardston, four premiums	2 00	1 50	1 00	50
No. 354.	Maiden's Blush, three premiums		1 50	1 00	50
No. 355.	Washington Strawberry, two premiums			1 00	50
No. 356.	Other varieties, not scheduled, gratuity.				

PEAR.—

No. 357.	Bosc, five premiums	$3 00	2 00	1 50	1 00	50
No. 358.	Dr. Reeder, three premiums			1 50	1 00	50
No. 359.	Sheldon, five premiums	3 00	2 00	1 50	1 00	50
No. 360.	Other varieties, not scheduled, gratuity.					

GRAPE,—open culture.—

No. 361.	Any variety, three clusters, gratuity.	

QUINCE.—

No. 362.	Champion, three premiums		$1 50	1 00	50
No. 363.	Orange, four premiums	3 00	2 00	1 50	1 00

VEGETABLE.—

POTATO,

No. 364.	Six varieties (named), 12 specimens of each, four premiums.	$3 00	2 00	1 50	1 00

SQUASH,

No. 365.	Hubbard, three specimens, three premiums		1 50	1 00	50
No. 366.	Marblehead, three premiums		1 50	1 00	50
No. 367.	Essex-Hybrid, three premiums.		1 50	1 00	50

CELERY,

No. 368.	Six, three premiums		2 00	1 00	50

Thursday, October 10.

CUT FLOWERS.—(FANCY BASKET).—

No. 369.	Four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 370.	Tompkins King, four premiums.	$2 00	1 50	1 00	50
No. 371.	Leicester Sweet, three premiums		1 50	1 00	50
No. 372.	Belleflower, three premiums		1 50	1 00	50
No. 373.	Sutton Beauty, three premiums		1 50	1 00	50
No. 374.	Wealthy, three premiums		1 50	1 00	50
No. 375.	Other varieties (named), not scheduled, gratuity.				

PEAR.—

No. 376.	Dix, three premiums	$1 50		1 00	50
No. 377.	Marie Louise, three premiums		1 50	1 00	50
No. 378.	Onondaga, three premiums		1 50	1 00	50
No. 379.	Frederick Clapp, two premiums			1 00	50

GRAPE,

No. 380.	Diana, 3 clusters, four premiums	$2 00	1 50	1 00	50

VEGETABLE.—

No. 381.	Kohl Rabi, six specimens, three premiums		$1 50	1 00	50

Onion,

No. 382.	Red Globe—Half-peck, three premiums		1 50	1 00	50
No. 383.	Yellow Danvers — Half-peck, three premiums		1 50	1 00	50

Salsify,

No. 384.	Three premiums		1 50	1 00	50

Endive,

No. 385.	Six heads, three premiums		1 50	1 00	50

Thursday, October 17.

CUT FLOWERS.—

No. 386. In any form, gratuity.

APPLE.—

No. 387.	Pound Sweet, three premiums			$1 50	1 00	50
No. 388.	Peck, three premiums			1 50	1 00	50
No. 389.	R. I. Greening, five premiums	3 00	2 00	1 50	1 00	50
No. 390.	Other varieties, not scheduled, gratuity.					

PEAR.—

No. 391.	Anjou, five premiums	$3 00	2 00	1 50	1 00	50
No. 392.	Diel, three premiums			1 50	1 00	50
No. 393.	Comice, five premiums	3 00	2 00	1 50	1 00	50

VEGETABLE.—

No. 394.	Butman Squash, three specimens, three premiums		$1 50	1 00	50
No. 395.	Brussells Sprouts, half-peck, three premiums		1 50	1 00	50

Thursday, October 24.

FERN.—

No. 396.	Best plant, three premiums		$2 00	1 00	50

PALM.—

No. 397.	Best plant, three specimens		$2 00	1 00	50

POT PLANTS—IN BLOOM.—

No. 398. Gratuity.

FOLIAGE PLANTS.—

No. 399. Gratuity.

APPLE.—

No. 400.	McIntosh, two premiums				$1 00	50
No. 401.	Baldwin, six premiums	4 00	3 00	2 00	1 50	1 00	50
No. 402.	Canada Red (Old Nonesuch), three premiums				1 50	1 00	50
No. 403.	Northern Spy, five premiums		3 00	2 00	1 50	1 00	50
No. 404.	Roxbury Russet, four premiums.			2 00	1 50	1 00	50
No. 405.	Golden Russet of Mass, three miums				1 50	1 00	50
No. 406.	Golden Russet, Sweet, two premiums					1 00	50
No. 407.	Golden Russet, three premiums				1 50	1 00	50
No. 408.	Red Russet, three premiums				1 50	1 00	50
No. 409.	Palmer, three premiums				1 50	1 00	50

No. 410.	Lemon Greening, two premiums.			1 00	50
No. 411.	Collection, not to exceed 10 varieties, not scheduled, four premiums	5 00	3 00	2 00	1 00

PEAR.—

No. 412.	Clairgeau, three preminms		$1 50	1 00	50
No. 413.	Langelier, three premiums		1 50	1 00	50
No. 414.	Dana's Hovey, three premiums		1 50	1 00	50
No. 415.	Angoulême, four premiums	2 00	1 50	1 00	50
No. 416.	Josephine de Malines, three premiums		1 50	1 00	50
No. 417.	Lawrence, four premiums	2 00	1 50	1 00	50
No. 418.	Winter Nelis, five premiums	3 00	2 00	1 50	1 00	50

VEGETABLE.—

Celeriac,

No. 419.	Six specimens, three premiums		$1 50	1 00	50

Celery,

No. 420.	Four premiums	$4 00	3 00	2 00	1 00

CHRYSANTHEMUM.

SIXTH SPECIAL EXHIBITION

ON

Wednesday, November 13th,

AND

Thursday, November 14th.

[N. B. All the specimens placed in competition must be from the best types, and owned and grown by the competitor three months.]

No. 1. For the best six Chinese, or large-flowered in pots,—distinct named varieties, five premiums.....
$6 00 5 00 4 00 3 00 2 00

No. 2. For the best six Japanese, in pots, distinct named varieties, five premiums.....
$6 00 5 00 4 00 3 00 2 00

No. 3. For the best six Pompon, in pots, distinct named varieties, five premiums.....
$6 00 5 00 4 00 3 00 2 00

No. 4. For the best 3 plants, in pots, from Amateurs,—distinct (not named), four premiums .....
$3 00 2 00 1 50 1 00

No. 5. For the best display, in pots, any variety, four premiums ....
$8 00 6 00 4 00 2 00

No. 6. For Specimen Plant, of any variety, four premiums..
$4 00 3 00 2 00 1 00

No. 7. For twelve Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums..
$4 00 3 00 2 00

No. 8. For six Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums.....
$3 00 2 00 1 00

No. 9. For six Cut Blooms of Chinese, or large-flowered, named, with long stems and foliage, in vases, four premiums.....
$4 00 3 00 2 00 1 00

No. 10. For twenty-four sprays, Chinese or Japanese, named, not less than twelve varieties, in vases, four premiums.....
$5 00 4 00 3 00 2 00

No. 11. For twenty-four sprays Pompons, named, not less than twelve varieties, in vases, three premiums....
$3 00 2 00 1 00

No. 12. Tall Vase, all of one color, long stems, with foliage, three premiums.....
$3 00 2 00 1 00

The sum of Sixteen Dollars may be awarded in gratuities for meritorious exhibits.

☞ This Exhibition will be open to the public from 2 P. M. until 9 P. M. Wednesday, and from 10 A. M. until 9 P. M. Thursday.

ADMISSION 10 CENTS.

N. B. All articles intended for this Special Exhibition, must be in the Hall, and ready for inspection by the Judge by 12 o'clock M., precisely, of the first day of the Exhibition.

By authority of the

COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS.

Attest:

EDWARD WINSLOW LINCOLN,

Secretary.

TRANSACTIONS

OF THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY.

FOR THE YEAR 1890–91.

Worcester, Mass.
CHARLES HAMILTON, PRINTER,
311 MAIN STREET.
1891.

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WORCESTER COUNTY
HORTICULTURAL SOCIETY.
A. D. 1890.

ANNUAL REPORT OF THE SECRETARY.

To the Members of the

WORCESTER COUNTY HORTICULTURAL SOCIETY:

At the annual meeting of the Society, A. D. 1889, it was

Voted: To "memorialize or petition the General Court for such further legislation as will more effectually protect fruit-growers from the depredations of juvenile trespassers or thieves."

Pursuant to that vote application for relief from existing, crying evils was duly made. It was not granted as a matter of course, because asked. It was not granted as a matter of proper concession to the statement of facts, and testimony, submitted by your committee and other parties in a common interest. To illustrate, in some measure, the character and gravity of the evil complained of, your *Secretary* recites a letter which he submitted as a summary of evidence that he could not give, in person:

FEBRUARY 21, A. D. 1890.

Hon. Henry L. Parker, Chairman Judiciary Committee.

MY DEAR SIR:

As I have explained to you personally, it will be out of my power to attend the "hearing" appointed for the 26th, upon the petition of this Society, *et als.*, in the matter of Juvenile Trespass and Theft. But I would like to impress upon the Committee the

increasing gravity of the offence. Sunday is especially selected as offering a favorable opportunity to steal flowers and fruit; householders being presumed to be absent at church.

The worst feature of the case, in my judgment, is the fact that so many of the offenders are young girls—the female sex being largely predominant in such form of trespass. In one instance, upon my own premises, there was a party of five (5) girls and two (2) boys busy picking and eating half-formed clusters of green grapes. At another time, passing the estate of Mr. Charles L. Pierce, on William Street, at an hour when he was away at his business, I found another gang (!) of seven (7) girls and three (3) boys busy as bees filling large baskets with apples and pears from Mr. Pierce's trees. In neither instance did there appear to be a child older than twelve (12) years.

This evil is rapidly developing, as our city grows in population, with a portion of whom it would seem to be an accepted theory that there can be no private property in flowers or fruits. Their cultivation will have to be abandoned, however reluctantly, unless juvenile trespass and theft can be effectually arrested.

Sincerely,

EDWARD WINSLOW LINCOLN,
Secretary and Member of Committee.

Reference to the next General Court was finally ordered, in sheer inability or reluctance to decide what would be most advisable to do in the premises. It is doubtless your settled opinion that some measures should be devised and enforced for juvenile restraint or reformation. That parents are much at fault cannot be disputed. Nor can they well plead in excuse for their shortcomings, that our hillsides are so thoroughly stripped of birch that there can no longer be satisfactory application to the wayward child. Birch enough can be found by those who seek, and, even if not, there is the weighty authority of the late Henry Ward Beecher that a judicious selection from young quince twigs will conduce to the just collocation of saplings. Meanwhile, what is the parochial school doing to abate the nuisance, or, putting it more emphatically, wanton mischief? If the common schools are godless! and therefore exercise no moral restraint, the same plea cannot be urged in defence or mitigation of peccadilloes by students at institutions whose inculcation of the moral law is the sole reason for existence!

There has been less fruit to steal, although as many flowers, since the General Court uprose with the freshets of June. Yet it was an average year for thieves. Indeed, the very scarcity of apples may be assumed to have put a keener edge upon that especial foe of industry which, unlike the razor, needs no protection! Appetite points the way; and your Secretary may be allowed to ask why its satiation might not approve itself a most effectual cure for all but hardened sinners? Why not administer homœopathic remedies? Why not permit the youthful offender to shorten his stay in the reformatory by conforming to a specific diet? Feed to him, for breakfast, twenty-four transcendant Crabs; let him gorge, at noon, upon a half-dozen mealy Boussock; supper bringing the culmination of his punishment, in that he will be required to devour, with what relish may be, a half-dozen Gloria Mundi or Duchesse. To please sentimentalists, this regimen might be varied; Clairgeau being substituted when Duchesse grew tiresome, and Red Bietigheimer taking the place of Gloria Mundi if S. F. P. C. T. animate creation felt its bowels yearn over the sufferings of *Juventus*. This suggestion may not be appreciated, at its true worth, by the Committee on Agriculture. Was one ever? But it has at least the merit of costing nothing in the proposal; and not much more in the application.

The Finance Committee were authorized at the Annual Meeting of the Society, A. D. 1889,

To procure plans and estimates for such alterations of the upper stories of Horticultural Hall as shall provide for a banquet or supper room adequate to entertain a large company, without impairing the beauty, symmetry, or light, of the Hall of Pomona:

Reporting the same, in their discretion, to a special meeting of the Society.

Little has been accomplished under that authorization, the sketches that were drawn by architects being prepared, apparently, in a partial misconception of the intent of the Committee within the scope of their powers. There was no need for hurry in the premises, since any considerable alteration of our Hall is to be esteemed a serious matter; to be undertaken, if needed, and

always to be deferred until the change can be shown a gain beyond peradventure. The Committee can therefore merely report progress, and ask that your trust be extended. An element that should enter into the consideration of the matter—perhaps control its decision—must be the determination by the Society of its policy for future years. If our resources and time are to be surrendered to exhibitions, as now; virtually compelling a reliance upon the same, or augmented, sources of income; why then we must take effectual measures to set competition at defiance. We must simply improve and augment the conveniences that we would lease, so as to put them above and beyond successful rivalry. Concede a pleasant nomenclature to Colonial, or Ideal, Halls! But the colonies have become States and the practical in rush and whirl of existence succeeds the ideal. Or, if there is aught in a name? Where will you find a more felicitous designation than is supplied by Ceres, Flora or Pomona? If, however, we adopt the conclusion that the science and practice of Horticulture are better advanced and improved in other ways than those that we have followed so undeviatingly for a half-century, then our present accommodations may appear all-sufficient for every legitimate use. As students in the various branches of our favorite pursuit, we can find now, if we will, every desirable facility for freshman or senior. Suppliants for popular patronage, we must conform to, preferably, anticipate the public wants. Masters of our own aims and intentions, and content with our actual resources, we have only to assure ourselves that they are applied in such manner that we cannot be reproached with burying our talent in a napkin or wasting it upon our own perverted and selfish cravings.

It was also

Voted, on motion of Charles E. Parker, that "so much of the Secretary's report as relates to taxation of Horticultural Hall be referred to the Finance Committee, with power to act."

The contention of your Secretary, as you will doubtless recall to mind, having been that this Society ought not to rest satisfied with the law that governs the assessment of its property for public purposes: the very property being held and administered in

trust for public purposes and yet, in practice, being subjected to an invidious discrimination. For the bounty of the Commonwealth is lavished upon the Worcester Agricultural Society, which holds a large and valuable tract of land wholly exempt from taxation; which uses that land for but a single week of the entire year, at other times sub-letting for all sorts of performances and antics, any diversion other than agricultural, in fact, from which revenue can be derived; capping the climax by engaging, as co-partner with that queer simulacrum—the New England Agricultural Society, in the invasion of our especial province, inviting a rival horticultural exhibition, of egregious size and inconspicuous excellence. Our appeal for redress would have been made to the General Court but for an unofficial suggestion from the Massachusetts Horticultural Society that it was not prepared, as formerly, to co-operate with this Society; intimating, in fact, apprehension lest, by seeking further relief, it might lose present benefit. The cases are not parallel; no Society receiving State bounty for pretending to exhibitions of "Horticulture, Floriculture and Vegetables!" on Tremont Street. Nevertheless, under the circumstances, your Committee felt that comity, if no other consideration, required that the sense of the Society should be taken, before prosecuting any definite action or policy, under the formal vote.

"What shall it profit me?" exclaimed the cynical Shah of Persia, when urged to attend the "Derby." "It is already known to me that one horse can run faster than another!"

For well-nigh upon fifty years this Society has been placing successive footfalls in the same continuous rut. We have learned pretty thoroughly, in that course of time, that, other things being equal, specimens of fruit from a young and thrifty orchard will excel such as may be gleaned from one spent by age, overproduction, or neglect. We have been taught; or we might have been, had we availed ourselves of the lesson apt to direct observation; that the ravages of insects are irreparable; that injury or disease are waste and consequent destruction; that the mischief which we were too careless or indolent to arrest, at its first intention, is ever active and malignant, sapping that vitality to which, under whatsoever name,—bacillus, bacteria, fungus, blight, or

rot, are omnipresent if insidious foes. Competitive trial has determined that twelve Bartlett Pears may turn the scales at a certain unprecedented weight: a fact of possible value, if any one could tell wherein, or to what degree! We have also found out that one woman can arrange flowers more tastefully than her rivals in like pretty competition; likely enough being endowed by nature with a nicer discrimination and a more exact judgment of the proper collocation of colors. We assume, with good reason, that there are vicissitudes of climate, extremes of temperature; natural causes in short, whereof the character and origin are alike inexplicable; perhaps because we do not investigate them, busy as we are in the award of fifty-cent gratuities! and when these do occur, bow our heads in all the fatuity of fatalism, beneath the dispensation of Providence! Might we not better take heed, as we look upon orchards defoliated by the canker-worm; upon our highways tolerant of white birch and wild cherry—convenient breeding places for the caterpillar; as we recall the wanton extermination of the game birds that held our insect foes in check and the senseless introduction of varieties that have become a greater plague than chrysalis or larva; that we cast not our burdens upon the Lord; but rather see that our own work is not left undone! The plague of insects is ever with us. Is it more aggravated this year than last? Wherein, if at all, do the unnatural, abnormal winters contribute to multiply and disperse the pests, whose unchecked development bids fair to put a speedy end to Horticulture—whether actual or tentative. We accept, as inevitable, canker-worm, caterpillar and codlin-moth; and take no active or efficient measures to suppress their ravages; submitting supinely to their invasion. Is eternal vigilance the price of liberty? What think you of sixty (60) cents per peck as the price of Gravensteins when brought, in pristine beauty and perfection, last September, to challenge the pomologists of Worcester? Shall we therefore cry out for protection to home indolence, that would not safeguard its own opportunities? Or shall we try to deserve, and therefore earn, success by our own unremitting diligence? Shall we first learn, and thereafter, instruct others?

Have exhibitions, purely, as such, and not replete with meri-

tricious lures, grown monotonous and therefore unattractive? Our older Members are rapidly passing away: is there promise that their vacancies will be filled? Certainly there can be no hope of it from the County which, save in title, has ceased to maintain any distinctive connection with the Society. Since my last report, Ward and Hapgood of Shrewsbury; Banister, Hill, Tainter,* and, but yesterday as it were, Newton, of Worcester, have gone to pluck the apples of the Hesperides, wherefrom, if they extract celestial juice, it may be hoped that they will not subject themselves to the espionage of angelic spotters! Their successors may appear; but will their places be filled? is the question that should concern a Society that has the reputation of our own,—a position in Horticulture which is so much easier to lose than acquire.

Cultivation recedes from us, repelled by the expansion of the City. The suburban farmer sells his orchard or flower garden for house lots, and cuts coupons in the eight hours that constitute a modern working day. Green-houses are built, it is true: but mammon presides at the laying of their corner-stones and dictates their management. The professional florist may adorn his own windows: he cannot sacrifice his stock in trade to make a display in our Hall. It speaks well for us, so far, that we have been able to achieve so much. But, looking straight ahead, what reasonable prospect is there of keeping up—let alone advancing—the position and repute of the Society in Floriculture!

Who introduces novelties of promise or evident merit? A peach-pit is thrown away; and thereafter, it may be, a choice seedling is brought to our Hall. It is a result of chance, in which design had no place, however slight. It gets a more or less appreciative notice, at the moment; and disappears,—out of sight, out of mind. No one secures buds, since that would involve the taking of a few steps and some trouble. And so it is that, in a latitude and longitude which favored the origin of Cooledge and Crawfords, it has come to be a sort of accepted creed among the faint-hearted, in whose elbow is little power, that the peach is a

---

* Mrs. Daniel Tainter, a rosarian in especial.

hopeless crop in Massachusetts! Can anything be grown by a people that wastes hours of daylight swinging in a tropical hammock?

> Who toils eight hours at best,
> Sleeps other eight with zest,
> Letting Satan have the rest,

may be sure that disease and insects will combine to get in their perfect work, and can compute as certainly in June as in October what shall be the harvest!

And except there are novelties,—if there is to be no advance, —*cui bono?* Who comes, or wishes, to see, save possibly at the "Hoss-Trot for the Acceleration of Agriculture," the same stale stallion, or effete gelding, year after year, notwithstanding the "Hi-ya's!" may be more vociferous! Having brought to your notice my share of the newer varieties in all the diversified branches of Horticulture, I claim the right to call attention to the radical deficiency of the Society, as a whole, in this particular. For, even if novelties of prospective or manifest value are produced at home, or imported, what can we know of their intrinsic merits under the prevalent theory and practice whereby the money premium has become the Horticultural Alpha and Omega!

What in good sooth do we accomplish? We meet weekly: and thereafter some of our Members are richer, pecuniarily, by a few dollars or cents. Doubtless, as a method of dispensing our income, the money is well disposed. In some cases it is of material assistance, enabling its recipient to procure the newer seeds or plants that would have been unattainable otherwise. The returns from Garden or Farm,—*Hortus, Agerque*,—are not so bounteous as to entice the modern syndicate, that harpy omniverous of every ample harvest. For the Trust of these latter days, pet infant of legislation, Potatoes or Corn have no charm. In the endless pages of the cotemporary statute, as we are assured upon the highest authority, there occurs nowhere a line that will provide a market for another bushel of wheat—another barrel of pork! Does fruit fare better? To him that hath shall be given! And is it not re-enacted at Washington,—the law that was graven

upon the tables of old,—from him that hath not shall be taken away even that which he hath. Can we sell to him of whom we will not buy?

Nevertheless, this Society was not founded for a bank of discount or a savings institution. Its purpose was definite and specific unders: tood clearly at the date of its organization, and which ought not to be left out of sight now that a half-century draws to its close. Thanks to the munificence, foresight and self-denial of the generation that preceded us, we have the good fortune to possess an inheritance that supplies abundant means for our legitimate uses. We may claim, with entire justice, that we have suffered no waste of that talent. But,—has its value increased, in our keeping; or have we applied the increment to our individual account? Have we added to the store of knowledge heretofore accumulated; or are we ignobly, content to profit by the hardly-won experience that puts it in our power to make an exhibit from the results of other men's diligence and skill?

Simply resolved into a Society for the consideration of questions of high public policy; and to whom is their proper decision of greater moment than to the tillers of the soil; might we perchance hope to determine whether a thing is undesirable merely because it is cheap! I have known the year when a barrel of Baldwin Apples could be had in exchange for an empty barrel; and again, when that quantity commanded but seventy-five cents in open market. Was the fruit therefore worthless? The children did not think so, at the time. I can remember when a suit of "Vermont Mixed" was as honest as the animal from whose fleece it was woven; and would hold a boy in safe suspense even if the ladder or limb did give way! Yet our modern shoddy is higher-priced. Does it concern us, in Horticulture, to learn if out-go enriches any one,—no matter whether it is denominated tax or exaction, unless an income can be plainly shown to counterbalance it! Do we care whether barter, developed into commerce, is necessarily a loss to those who engage in it; or mayhap involves reciprocal benefit to either party, enabling the one in want to obtain that which the other has in superfluity? Is it a fact, or simply a bald, partisan assumption that, if we ship a barrel of apples to an Englishman beyond the seas, we lose our

own soul; whereas a sale of just as many Hubbardstons to John Bull, who has become naturalized, and votes our especial ticket, is net gain to us of the whole world! It might then be pertinent to inquire why Medes and Parthians, Elamites and Paphlagonians, draw our wire, and stitch our shoes, while honorable tillage is scorned and none of those choice breeds of the human animal will hire out for the cultivation of the earth, so long as they can sweat, beg or steal, in the crowded town! Possibly there are good and sufficient reasons, if one is smart enough to discover them; or fat-witted enough to accept them supplied to order; why Hungarian or Polack should delve in the mines of Pennsylvania; while Armenians and Pamphylians throng the shops of Worcester; so-called American Labor fattening upon Home Industry, forsooth! for the support of all which shiftless tribes the Terræculturist is—taxed? Oh, no! only required to pay tribute unto Cæsar! There may be valid arguments, adapted to the comprehension of the coward in politics, why, for the sake of such breechless, illiterate bulwarks of our Republic, we should repel the Chinese or Japanese, cleanly and educated; whose proficiency in Horticulture is alike a marvel, and a continual reproach to us in our arrogant conceit; whose patient labor is precisely what American impatience needs in this very emergency that we are just beginning to recognize, now that we are throttled by its gripe; whom we might well and wisely hire for that intensive culture whereof they are such masters, if they are willing to take service; and whose right to enter the country should be as unrestricted and perfect as that of the filthy Slovack, or those dwellers in Cappadocia who left the land of their nativity for its manifest good and our palpable detriment.

But, recurring from this digression, if it is such,—do our Members appreciate, for its true worth, the palm of excellence whereat we formerly set our mark, and have hitherto upheld it? Do they fully realize how easy it is to forfeit that prime rank in Horticulture, maintained in the very fore-front of kindred associations? If aye,—why that eagerness to compete at "Shows" of an inferior grade! offered for money, by Societies that are confessedly "on the make?" At which confusion worse confounded is the dominant rule; Floriculture, Horticulture, and the growth of

Vegetables being set into classes alike separate and unique; constituting a distinction so rare as to be known nowhere else on earth. Whereat our especial purists, who were so zealous to purge our own entries from all taint, or even suspicion, of wrong-doing, are eager to engage, with lamblike innocence, in unreserved competition with the very scapegoats! There can be no accession of dignity derived from thus stepping outside of our beaten tracks: since Governors and Judges illustrate our roll, and the cotemporary Senator, whether Federal or State, may well challenge precedence with the Minister to Liliput. Moreover, all such participation in side-shows, although supplying room for our *exuviæ*, operates by way of condonation of a gross public wrong. Since we are not alone subject to taxation upon our property that is devoted to the purposes of Horticulture, while our mimics are not; but the bounty of the Commonwealth is lavished in their behalf, to our significant and invidious exclusion.

In a social point of view, our exhibitions were eminently useful; an advantage that is not wholly lost, at present. But the field, once exclusively relinquished to us, is now invaded by others; whose efforts to pervert our members from their old-time allegiance are not wholly fruitless. In this particular,—we are compelled to recognize the Grange as a formidable competitor; affording as it does those attractions of pleasant intercourse so irresistible to the young, and which have not actually palled upon maturer fancies. Our sessions are brief: long enough for their avowed object, but holding out no especial fascination in the way of cheerful amusement. This may not count for much; but it must needs have its due weight in an exact estimate of the precise value of our operations. We run together in haste,—to disperse even more rapidly. It may be the best that we can do: but—*is it?* Of yore,—the hopes and illusions of a twelvemonth culminated in the Cattle Show Ball; in which extreme of revelry, the energies, rigidly restricted for a year, burst their bonds and found safe dissipation and outlet. Masonry, with its rites, and regalia; its pomp of procession and luxury of banquet; had long been under a cloud, beneath which were rare glimpses of the faintest silver lining. Odd Fellows enough there were, it is true: but no one had conceived the plan of banding them together in

an organization whose serried tread should, later, shake the very town. The theatre! Who, in those "orthodox" days, while the echo of Beecher's thunder from the pulpit of the Old South was yet vibrant in the atmosphere, would have dreamt of seeing Thespis save literally dragged at the tail of his own cart, thanking his stars if he escaped the pillory or whipping post and was not obliged to carry a second or third mortgage! The Continental uniform had faded into a memory. And, if the eye was annually directed to a muster of the Light Infantry, it was only to excite pity for the absurd dream that armed militia could ever become needful in a Republic like our own. In such an idyllic season of Arcadian peace, there was ample room and occupation for this Society. Its calm pursuits might well culminate in the Autumnal Harvest-tide, when abundant fruition was celebrated in rural leisure. Under such propitious auspices our foundations were laid,—broad and deep: so deep and broad that upon them the structure of our prosperity has been built and maintained, down to the present day. But now, when amusements of all sorts, occupations of every variety, and, shall I add—vacuity? claim time and attention; now,—when life is harassed with perplexity, in its effort to meet the problem,—what can I omit that I may the better devote myself to this which must not be neglected? does not the question recur with imperative urgency: Are exhibitions of Flowers, Fruits, Vegetables, etc., etc., the sole—nay, the best method A. D. 1890, and in the years to come, of

"Promoting the science, and encouraging and improving the practice, of Horticulture!"

All this conceded,—you may say,—aimless purpose or inert action, what do you advise? What shall be the remedy? But if there is a malady, does not the diagnosis take precedence? Can the physician invariably prescribe wisely? Is there anybody but your average Representative in Congress whose prerogative is omniscience? Your Secretary does not arrogate infallibility: only that conviction and faith which is based upon the observation of a lifetime, whereof more than thirty years have been largely occupied in your official service. And this, at

least, he notes with surprise and some mortification. Possessing a Library that has few equals; its superiors in America, restricted within its especial sphere, are less in number than the fingers of one hand; he sees its privileges contemned, and the prospective benefits from its use utterly disregarded. Some of our members have been ostentatiously delegated, by those who can be forgiven for ignorance of the opportunity at their very doors, to dive or delve at will in the pile of black-letter gathered in and heaped up on Tremont Street. Forty miles inland, right in the heart of this great Pomological County, is located a Library whose selection by Harris and Haven, Earle and Paine, should be a voucher for its intrinsic excellence: and for the sustained quality of which their successors may modestly assert that no depreciation has been suffered. Still, with all this accumulation of books, to what actual use are they put? Elsewhere,—with no invested wealth; with no commodious halls, in exclusive ownership; without even a printed page; we witness the origin and successful development of a flourishing School of Botany. Is that any concern of ours—as Florists? Does that boldly invade our peculiar province and challenge our perception of duty? Or do we rather achieve the complete aim and scope of our incorporation as, once a week, we invite this suffering brother to accept Three Dollars for showing us a dozen Boscs or Greenings; or award to the bashful thrift of that forlorn sister Fifty Cents in gratuity for a confession of inferiority that shrinks from competition!

How notable, or how insignificant, are our contributions to the study of Entomology, whereof the knowledge is fast coming to comprehend the problem of success or failure in any and every branch of Horticulture? What do we add to the lore of Noxious Insects;—what it is that facilitates their development;—to what extent the plague is influenced or modified by the relative severity or humidity of successive seasons! In what way are we to distinguish the useful parasites which hold them in check; and without whose beneficent aid the activity of our insect foes would be yet more pernicious!

Are our local applications,—our cunning contrivances,—of more good than harm? destroying only our enemies and sparing our allies. If aye,—in what manner, and to what degree, are

Hellebore, Pyrethrum, or patent trap, endowed with the superhuman wit to discriminate where man confesses himself at fault! What we do not know,—what we do not care or are too lazy to learn,—who shall tell us? Canker-worm, caterpillar, or codlin-moth, in more or less aggravated alternation, abide with us always. The ground is strewn with twigs, even limbs, from the massive Oaks that would otherwise, in perfect symmetry, endure, as it were, forever. The once superb Elm of Massachusetts is foul with tent and web-worm; its foliage curled and yellow from waste by myriads of aphides. And now a new and insidious foe threatens mortal injury to that noblest of all forest trees of the temperate zone, — *Acer Saccharinum*, — the Rock, or Sugar, Maple.

Again,—are those swarms of birds that now, in early October, make their homes upon our Bartlett and Washington Pear trees; or in our vineyards; the beneficent agencies that the sentimentalist asserts? For, with reason or not, it must be noted that their visits are ever to the fairest, brightest-colored pears; the clearest, thinnest-skinned grapes. Are they to be encouraged, or held in check? The flocks of the sparrow are countless. Our old friend! *Turdus migratorius*,—thrives mightily under the fostering wing of legislation. Of assumption, without facts, we have more than enough. Of birds,—inevitable result from that assumption of their beneficial agency,—is there not a woeful excess! The naturalist of tender years is allowed to shoot his little gun; and, of course, is sure to find that predestined early worm. The farmer and orchardist is forbidden to use fire-arms and is warned to distrust his own eyesight when he sees beaks busy and crops (of the birds!) swollen to very repletion. We have literally exterminated our wild birds, of predaceous instinct and habit, and for reward can roll up our grass-sward like a carpet. The crow, and crow black-bird are shot at sight; or, if rendered too wary to approach within range, that very excess of caution precludes their natural usefulness. What few birds survive whose instinct prompts them to get a living by beak and claw, from worm or beetle, are protected in a brief existence, only that they may fall a surer prey to the legalized pot-hunter or "sportsman." Would the quail or grouse, the plover or woodcock be of more

benefit or harm, if shielded by law the year round? Of graceful carriage, they would be pleasant to the eye. Insectivorous,—they might aid in maintaining the due proportion between the life that is beneficent or noxious. Encouraged to frequent and multiply in our homesteads and public grounds, they would soon overcome the extreme timidity that has become innate after generations of reckless slaughter. Perhaps their fecundity and increase consequent upon being in-lawed would be of no practical or appreciable use. But that is the point at issue; one which this Society might well assist in determining.

Your *Secretary* has no other interest in this matter than a heart-felt desire that this Society shall elect and follow that path which tends most directly to the public and therefore your individual welfare. Influenced solely by such concern, he is compelled to ask whether we shall enter upon the second half of our first century of corporate existence by inaugurating a new departure, of fairer augury to ourselves and the community! Or rather confess that the premium and gratuity must continue to be our highest aim; and that only by their lavish award do we expect or aspire to

"Advance the science and encourage and improve the practice of Horticulture!"

An Act of the General Court of Massachusetts whereby John Green, Anthony Chase, Frederic Wm. Paine, George W. Richardson, their associates and successors, are hereby made a Corporation by the name of the Worcester County Horticultural Society, was approved by His Excellency, John Davis, A. D. 1842, thereupon becoming a Law of the Commonwealth. You can compute for yourselves the precise period of time that has since elapsed. Suffice it for the present purpose to emphasize the fact that, upon the Third of March, A. D. 1892, little more than a twelve-month hence, a Half-Century will have expired since our Founders cheerfully invited the responsibilities to which we have fallen heirs. Should any formal recognition of such a notable event be authorized? Shall its marked influence upon co-eval life and development be noted in a way that shall endure? Of Horticultural Societies that are entitled, whether

from character or usefulness, to bear the name, the list is lamentably short. If our own has prospered beyond measure; if we are still in vigorous career when others that started in equal promise, have faded from memory; shall we now put down a mete or bound wherefrom another generation may be enabled to trace a new departure! If anything is to be done, there will be no time to waste, in deciding its proper character. What to omit is usually more essential than what to achieve. Hundreds of absurd, if plausible, schemes must be summarily discarded, since the scope of Horticulture, broad as it is, does not comprehend all human interests. A discreet Committee, early appointed, should be competent to evolve some wise and sufficient plan for celebrating an event wherein we have a right to feel such pride, without ensnaring us in the meshes of a multiform trades-procession or plunging the Society in the hopeless bog of political intrigue.

All which is Respectfully
Submitted by
EDWARD WINSLOW LINCOLN,
Secretary.

Horticultural Hall, Worcester,
Worcester County, Massachusetts,
November 5, A. D. 1890.

POSTSCRIPT.

Of the few men, famed in Horticulture, whose lives were co-temporary with the existence of our Society; and whose names dignify our Roll of Honorary Membership; the number was signally diminished by the death of PATRICK BARRY. It was never the felicity of your Secretary to enjoy his intimate acquaintance. But, through the correspondence of a lifetime, I had learned to appreciate that rare conscientiousness which would profit by no advantage not honorably gained and was almost painfully sensitive to the fear that, by some mischance, aught might be disseminated untrue to name or report. The reputation of his great nurseries placing him easily at the head of his

profession, constituted of itself a power for incalculable evil, unless controlled by the most unflinching regard for principle. His growing fame for straight-forward, upright dealing rapidly developed his trade, which, in its turn by a reflex action as it were, tended yet more to attract the trust of all who once had dealings with him. The veriest tyro in pomology could depend upon getting what he ordered and feel implicit faith that no advantage would be taken of his evident inexperience. May it be long before his due share of credit must be apportioned to George Ellwanger!

An obituary notice by our honored associate, THOMAS MEEHAN, originally published in the *Gardeners' Chronicle* (London), is quoted at length, to inform you more fully of the merits of him whose loss to Horticulture is so serious; and, as well, to furnish an example to the young wherefrom they may derive profit, if only they deduce the proper inspiration.

Of the generous nature that was swift to proffer credit or purse without calculation of return, Mr. Meehan had perhaps no occasion to speak. But the writer cannot forget the kindly intention in behalf of one dear to him; none the less appreciated that it was not needed; a fact, the ignorance of which by Mr. Barry but served to render his open-handed munificence still more conspicuous.

E. W. L.

OBITUARY.

Patrick Barry. To my mind, June 26, 1890, ends a famous chapter in American Horticulture. The grave closed over all that was mortal of Patrick Barry, who, in connection with his partner, George Ellwanger, has for half a century been a central point, around which revolved much that was progressive in American horticulture. A respectful cortege of some fifty carriages followed his remains to the Cathedral of St. Patrick, which his munificence in great part founded, and a solemn high mass, in which twenty-four priests assisted, was offered in his behalf. The Catholic Bishop, McQuade, one of the most eminent pulpit orators, made a funeral address. Officials of the great city he did so much to build up were among the mourners, and brother nurserymen from some hundreds of miles paid their last tribute to his

remains. But the most touching scene was when, in passing the public schools along the line of the funeral procession, the children were all drawn up in line in front of the school buildings, until the body had passed by. He was borne to his grave in the Catholic cemetery of the Holy Sepulchre, by eight of his faithful workmen who desired this sad privilege.

I was so glad the cemetery was not one of the usual cold-blooded sort. The Catholic cemeteries of the United States are not generally among the types of beauty—but the diocesan of the district, Bishop McQuade, is in many subjects among the progressive spirits of our country. He employed a famous landscape gardener, F. R. Elliott, to design the grounds, and, beautiful as so many modern cemeteries are, this will take rank among the foremost. The rare and lovely trees, Virgilia lutea *(Cladastris tinctoria)*, will stretch its arms over him, and I was glad to see him reposing in so beautiful a spot.

How can men like these be rewarded, except in the consciousness of the good they do. Here was a lad born on a farm near Belfast, who came to America in 1834, first resigning his position as a country schoolmaster to try his luck among strangers in a foreign land. That luck brought him a clerkship in Princes' Nurseries at Flushing, and thus he gained a good knowledge of the machinery of a nursery business. Falling in with a thoroughly educated young nurseryman from Germany, in George Ellwanger, they started the nursery business in Rochester just fifty years ago. Like most young men, they found they had much to learn. Many would have been disheartened. They had, however, the good judgment, so rare in many cases, to turn even disaster to profit. This firm was, perhaps, the first to see the enormous capabilities of the fruit tree business, which has since grown to such enormous proportions through the United States. Rochester was then only a small settlement of some 10,000 inhabitants, and I could hardly help wondering how many of the 100,000 or more the beautiful city now contains knew, or cared to know, how much this great prosperity was due to this one man. When the only employment the workingman could get would be at most but a dozen or so in any one place, Ellwanger and Barry took to work several hundreds at a time. Their success was so marked, that numbers followed, and Rochester became a city of nurserymen, and from these radiated younger nurserymen, until almost every State and territory had its nursery, most of which got their first inspiration from Rochester experiences.

And the city itself—it was not in him to merely make and hoard the money he earned, but to turn it all to account for the beauty and glory

of his adopted town. The only thing I ever knew him decline to do was to be put in nomination as mayor of this great city, and to which, though the political party with which he was affiliated was largely in the minority, he would have, in all probability, been handsomely elected.

He and his beloved partner, Ellwanger—for they had worked together through life in outside affairs, as well as in the nursery business—had just about completed an enormous building, to be rented out for business offices—108 offices in the one building. Every day he would think that on the morrow he would go and look at the finishing touches of this magnificent enterprise; but it was left for me, his many-year friend, to examine it for him.

I pen these lines to you because I know how much he prized the English horticultural periodicals—how continuously his thoughts wandered towards the lovers of gardening he had left in the Old World behind him, and I have thought I could do no better service to those whom he loved than to offer this brief sketch of his career as an example for their encouragement. It is given to every man to do something for his life work. I know of no one who did so much, and did that much so well, as Patrick Barry; and I know that the gardeners of the Old World will share with me the exultation that such a man was one of themselves.

THOMAS MEEHAN,
Germantown Nurseries,
Philadelphia, U. S. A.

—*The Gardeners' Chronicle.*

REPORT OF THE LIBRARIAN.

To the Members of the
Worcester County Horticultural Society.

The Library has been considerably improved during the past year by the addition of a new bookcase and the enlargement of two of the old ones. There is still need of more improvement and space by replacing two at least of the old cases with more spacious, convenient and modern ones. The increased shelf-room made by the recent changes is already occupied and more is needed, not only for convenience but for the credit of the Society. The most important work done for the Library during the year just closed has been the binding of about 250 volumes of many pamphlets and reports that had accumulated during several years past, which for various reasons had not been bound. The principal works bound are the English Garden, the English Gardeners' Chronicle, the English Agriculturist, the American Garden, the Country Gentleman, the American Agriculturist, Transactions of the Mass. Horticultural Society, Reports of the American Pomological Society, and several volumes of the Journal of Horticulture. There are a considerable number of pamphlets and reports yet to be bound, which will be finished as fast as we can find room for them. The following list comprises the books, pamphlets, bulletins and reports that have been received during the past year, either by purchase, gift or otherwise:

The Illustrated Dictionary of Gardening, a practical and scientific encyclopædia of horticulture for gardeners and botanists, 4 vols., 4to, by George Nicholson, A. L. S., Curator Royal Botanic Gardens, Kew.

Report of the Commissioner of Education, 1887–88.

Proceedings of the Twenty-second session of the American Pomological Society; from F. M. Marble.

Bulletin No. 1; Report of the Proceedings of the Department

of the National Educational Association at its meeting held in Washington, D. C., March 6–8, 1889.

Bulletin No. 2; Indian Education.

Consul Reports, Nos. 106 to 118, inclusive.

Annual Report of the Parks-Commission of the City of Worcester, 1889; E. W. Lincoln.

Bulletin for Oct., 1889; Cornell University College of Agriculture; on Tomatoes; also 13, 14 and 15.

Second Annual Report of the Cornell Experiment Station, Ithaca, New York, embracing Bulletins Nos. 5 to 15, inclusive.

Catalogue Supplement, Worcester Free Public Library.

Curtis Botanical Magazine, Vol. 45, Third Series, 1889.

Rules for a Dictionary Catalogue; by Chas. A. Cutter, Librarian of the Boston Athenæum; second edition with corrections and additions, U. S. Bureau of Education, Washington, D. C.

Costa Rica and her Future; by Paul Boilley; translated from the French by Cecil Charles, 1889.

Henderson's Handbook of Plants and General Horticulture; New Ed., 1890.

The Journal of Horticulture; Vols. 19 and 20, New Series.

Report of Worcester Schools, 1889.

Annual Report of the Board of Health of the City of Worcester, Nov. 30, 1889.

Twentieth Annual Catalogue of the Worcester Polytechnic; Institute, 1890.

Transactions of the Mass. Horticultural Society, Part 2, 1888; Robert Manning, Secretary.

Bulletin No. 17; Cornell University, May, 1890.

Second Annual Report of the Board of Managers of the Rhode Island State Agricultural School and Experiment Station, 1890.

Bulletins from Michigan Agricultural Experiment Station, Nos. 55 to 62, inclusive.

Bulletins from Hatch Experiment Station, Amherst, Mass., Nos. 1 to 10, inclusive.

Bulletins from Mass. Agricultural College, Nos. 36 and 37.

Seventh Annual Report of the Board of Control of the State Agricultural Experiment Station, Amherst, Mass.

Bulletin No. 16, March, 1890, of the Agricultural Experiment Station, Cornell University, on Growing Corn for Fodder and Ensilage.

Bulletins Nos. 1, 2, 3, 4, 5 and 6; Mass. Crop Reports.

Bulletins Nos. 1–5, 6 and 7; Agricultural Experiment Station, Kingston, R. I.

Twenty-Seventh Annual Report of the Mass. Agricultural College, 1890.

The History of Federal and State Aid to Higher Education in the United States; by Frank W. Blackmer, P. D.

Third Annual Report of the Interstate Commerce Commission, 1889; W. G. Veasey.

Speech of John Sherman on Silver in the United States Senate, June 5, 1890.

Compendium of the Tenth Census of the United States, pts. 1 and 2, 1880.

Revue Horticole; Paris; 1889; Society.

How Crops Grow; new edition; 1890; Society.

Manual of Injurious Insects and Methods of Prevention; by eanor A. Ormerod, London, Eng.; Society.

The American Florist; Semi-Monthly; 1890.

The American Garden; Monthly; 1890; Society.

Gardener's Chronicle; English Weekly; 1890; Society.

The Garden; English Weekly; 1890; Society.

Gardening Illustrated; English Weekly; 1890; Society.

Garden and Forest; Weekly; 1890; Society.

The Country Gentleman; Weekly; 1890; Society.

The Agricultural Gazette; English Weekly; 1890; Society.

The American Agriculturist; Monthly; 1890; Society.

Vick's Monthly Magazine; 1890; Society.

Massachusetts Ploughman.

Popular Gardening; Society.

Essay on the use of Nitrate of Soda for Manure and the Best Mode of its Employment; by Joseph Harris; Society.

Catalogues received: Pitcher & Manda; Seibeicht & Wadley; R. & J. Farquhar & Co., Boston; D. Landreth & Sons, Philadelphia; Peter Henderson & Co., Farmer's Manual; Peter Henderson & Co., Manual, "Everything for the Garden," New York; Chrysanthemum, Pitcher & Manda; W. W. Rawson, 34 South Market street, Boston, Mass.; Parker & Wood, Seeds and Agricultural Implements, Boston, Mass.; W. W. Rawson & Co., Vegetable and Flower Seeds, Boston, Mass.; Fred. W. Kelsey, Shrubs, Roses, Bulbs and Hardy Plants, New York.

All of which is respectfully submitted.

CHAS. E. BROOKS,
Librarian.

HALL OF FLORA,
November 5, 1890.

REPORT OF THE TREASURER.

CHARLES E. BROOKS IN ACCOUNT WITH
WORCESTER COUNTY HORTICULTURAL SOCIETY.

DR.

1889.			
Nov. 1.	To balance	$3,961 25	
	To cash received from rent of stores	4,000 00	
	To cash received at Chrysanthemum Exhibition	142 00	
	To cash received from new members	18 00	
	To cash received of A. N. Currier, insurance	110 00	
	To cash received from rent of hall	2,797 50	
	Total		$11,028 75

CR.

By cash paid Premium Awards, 1889	$1,568 55	
By cash paid judges of Awards	138 00	
By cash paid Mechanics Bank	1,038 88	
By cash paid Chas. Hamilton for printing	195 49	
By cash paid City of Worcester, tax	521 04	
By cash paid City of Worcester, water tax	7 72	

By cash paid for books and papers	144 67
By cash paid for insurance	30 60
By cash paid J. S. Wesby & Sons for binding	194 35
By cash paid Sanford & Davis for binding	54 25
By cash paid F. W. Wellington & Co., coal	58 00
By cash paid W. H. Jourdan & Co., coal	10 50
By cash paid for advertising	25 50
By cash paid O. S. Kendall & Co.	14 41
By cash paid Protective Union	4 41
By cash paid White & Conant	14 13
By cash paid Paine & Dean	9 00
By cash paid Arba Pierce, evergreen	15 00
By cash paid Henry Brannon, bookcase	50 00
By cash paid E. G. Higgins	5 00
By cash paid C. Baker & Co., lumber	9 25
By cash paid State Safe Deposit Co.	10 00
By cash paid George W. Mellen	35 00
By cash paid J. A. Long, mirror	40 00
By cash paid B. C. Jaques, work on bookcases	82 77
By cash paid B. C. Jaques, work on new stairs	66 80
By cash paid J. S. Perkins, roof paint and glass	20 49
By cash paid Strauss Bros.	45 75
By cash paid George L. Barr, repairs in store	20 00
By cash paid Heywood Bro. &	

Co., repairs on chairs.....	17 01	
By cash paid Augustus E. Peck, portraits	235 00	
By cash paid A. K. Gould and others, fare to Boston.....	20 00	
By cash paid E. W. Lincoln, salary	400 00	
By cash paid C. E. Brooks, salary,	1,000 00	
By cash paid extra labor and sundry small bills.....	377 10	
By cash paid Worcester Gas Light Co.	265 35	
	$6,744 02	
Balance..... .	4,284 73	
		$11,028 75

Respectfully submitted.

CHARLES E. BROOKS,
Treasurer.

SCHEDULE OF PREMIUMS

OFFERED BY THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY,

FOR THE YEAR

1890.

The attention of Exhibitors is particularly called to the Rules and Regulations, General and Special.

Worcester, Mass.
CHARLES HAMILTON, PRINTER,
311 MAIN STREET,
1890.

COMMITTEE

ON

ARRANGEMENTS AND EXHIBITIONS.

James Draper, *Chairman.*

Calvin L. Hartshorn,
Adin A. Hixon,
O. B. Hadwen,
F. M. Marble,
O. B. Wyman,
Charles E. Parker,
Edward Hall,
William H. Earle,
Charles E. Brooks,
Hermann F. A. Lange,
Charles Greenwood,
H. B. Watts,
J. L. Peters,
George C. Rice,
William H. Johnson.

President, - - Henry L. Parker.

Secretary, Edward W. Lincoln,
Nos. 5 Oak and 18 Front Sts.

JUDGES OF AWARD.

Flowers, Plants, Etc.—William H. Johnson.
Fruits, Etc.—James Draper.
Vegetables, Etc.—Charles Greenwood.

COMMITTEE ON NOMENCLATURE.

James F. Allen,
Hermann F. A. Lange,
George E. Francis,
O. B. Hadwen,
James Draper,
Charles Greenwood,
F. M. Marble,
Edward W. Lincoln.

GENERAL RULES FOR ALL EXHIBITIONS.

A. Strict conformity to the Regulations and Rules will be expected and required, as well for the benefit of Exhibitors as for the convenience of the Officers of the Society.

B. Correct and legible names must be attached to each and every Flower or Plant entered in a class of named varieties.

C. All articles offered for premium must remain within the Hall throughout the hours of Exhibition, unless special permission for their removal shall be granted by the Committee on Exhibitions, etc.

D. All *Small Fruits* must be entered in boxes or baskets (except in the case of Strawberries or Currants, which are to be shown "*flat*"); but they may be displayed subsequently in plates or dishes, at the taste of the exhibitor.

E. No person can compete for more than one premium with the same variety of Flower, Fruit or Vegetable, nor can any person take more than one premium under the same number.

F. The Judges may correct, before the close of any Exhibition, awards made by them, if satisfied that such were erroneous.

G. The cards of competitors shall be put, reversed, beneath the plates; and the Judges of Award shall be excluded from the Hall of Exhibition until the Exhibition itself is ready for judgment.

H. Competitors are expected to conform strictly to the conditions under which articles are invited. Evasion or violation of them may be reported to the TRUSTEES for future disqualification of the offender.

RULES AND REGULATIONS.

1. Exhibitions will be held on March 13, April 17 and May 22. Commencing June 5, there will be Exhibitions every Thursday afternoon, excepting July 3, until and including October 23, A. D. 1890. The hours of Exhibition will be between 3 and

4.30 o'clock. Articles offered for premium must be in the Hall by 2.15 o'clock P. M. of the days of exhibition. Between 2.15 and 3 o'clock the Hall will be in exclusive charge of the Secretary, and the Librarian, who will allow no one else to be present. The Judges of Award may be admitted under the limitations of General Rule G.

2. Competition for premiums is open to all; but a discount of one-third of the amount will be made from awards to persons who are not members of the Society; and it is strictly required that all specimens offered for premium shall have been grown by the competitors, on their own premises, *within the County of Worcester*, for a period of at least two (2) months previous to the date of exhibition.

3. After the articles are arranged they will be under the exclusive charge of the Judges, and *not even the owners* will have liberty to *remove* them until the exhibition is closed; when they will be delivered as the contributors may direct.

4. No cards of a business nature will be allowed in any exhibition.

5. Where a certain number or quantity of Plants, Flowers, Fruits or Vegetables is designated in the schedule, there must be neither more nor less than that number or quantity of specimens shown; and in no case can any other varieties than those named in the schedule be substituted.

6. It will be the duty of the Judges to *exclude from competition all inferior specimens.* Also, all such *Designs*, as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making Awards, will especially regard uniformity in size, symmetry of form, and beauty in color.

7. The Committee on Arrangements have power to change the time of exhibition for any article, if an earlier or later season renders such change necessary; and the Secretary is requested to give notice of one week, in some daily paper, and also at the preceding exhibition, when a change in the Schedule is proposed.

8. All articles offered for premium must be correctly named. Indefinite appellations such as "Pippin," "Sweeting," "Greening," etc., will not be considered as names. Any person exhibiting the same variety of Fruit or Vegetable, under different names, or exhibiting as grown by himself, Flowers, Fruit, or Vegetables grown by another, thereby violating the objects and rules of the Society, shall be debarred from competing for the Society's premiums until reinstated.

9. No Flowers, Plants, Fruits or Vegetables will be entitled to a premium unless they possess points of superiority; and the Judges are *strictly required* to withhold premiums if, in their opinion, the articles exhibited do not merit them; nor shall any specimen for which a premium has been once awarded, receive another during the season.

10. Competitors will be required to furnish information as to their mode of cultivation, and to present specimens, for trial and examination, if requested.

11. In all exhibitions of Cut Flowers, for competition, the use of foliage must be restricted to that of the varieties shown; and not more than three blooms, clusters, sprays or spikes, all which shall be of one color, and of one variety, shall be allowed in the same bottle, or vase, except when otherwise specified in the schedule.

12. No Judge shall award a premium or gratuity in any case wherein he is a competitor, or has an actual or resultant interest; in any such case the judgment shall be rendered by any three of the Committee on Arrangements and Exhibitions whom the Judge shall invite.

13. No Judge shall require anything of competitors respecting their exhibits, which is not distinctly specified in the schedule. No Flowers, Fruits, etc., etc., shall be put on the tables, for competition for premiums, by any person who is a judge as to the awards to be made for Fruits, Flowers, etc., etc.

14. The standard number required for an exhibit, whether of Fruits or Vegetables, will be twelve (12); unless otherwise

specifically declared. The usual limit of measure, save for SMALL FRUITS, will be a half-peck.

15. All premiums that are not claimed within three months after the close of the official year shall be forfeited to the Society.

16. The awards will be made known as soon as the cards can be filled out and placed upon the tables.

17. "Downing's Fruits of America," revised edition, will guide the Judge of Fruits in his decisions upon matters at issue.

☞The Judges are authorized by the Trustees, to invite the assistance of competent and discreet persons in the discharge of their duties.

FLOWERS, PLANTS, FRUITS & VEGETABLES.

A. D. 1890.

☞The Committee on Arrangements and Exhibitions would direct the earnest attention of the Judges to *Rule 6!*

6. *It will be the duty of the Judges to exclude from competition all inferior specimens. Also, all such designs as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making awards, will especially regard uniformity in size, symmetry of form, and beauty in color.*

FLORAL. Special Rule.—In all cases where dimensions are prescribed for exhibits, the measure shall be understood to be that of the flowers, solely; never admitting the basket, foliage, or any garniture of green.

Tuesday, March 13.

☞The Committee on Arrangements and Exhibitions *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

HYACINTH,—in bloom.—

No. 1.	Six plants, four premiums	$3 00	2 00	1 00	50
No. 2.	One plant, two premiums			1 00	50

PRIMULA SINENSIS,—in bloom.—

No. 3.	Four plants, four premiums	3 00	2 00	1 00	50
No. 4.	One plant, two premiums			1 00	50

PRIMULA,—any other variety,—in bloom.

No. 5.	Four plants, four premiums	3 00	2 00	1 00	50

CINERARIA,—in bloom.—

No. 6.	Four plants, distinct in color, four premiums	3 00	2 00	1 00	50

CYCLAMEN,—IN BLOOM.—

No. 7.	Four plants, four premiums.... ...	3 00	2 00	1 00	50
No. 8.	One plant, three premiums.....		1 50	1 00	50

ARUM (RICHARDIA),—IN BLOOM.—

No. 9.	Best collection; grown in a pot, or tub, not exceeding 16 in. in diameter, four premiums.....	3 00	2 00	1 00	50
No. 10.	One bloom, with foliage (the largest), two premiums			1 00	50

AZALEA INDICA,—IN BLOOM.—

No. 11.	Three plants, four premiums....	$5 00	3 00	2 00	1 00
No. 12.	One plant, two premiums.....			3 00	2 00

CUT FLOWERS.—

No. 13.	Twenty blooms (clusters, sprays or spikes in vases), four premiums..	$3 00	2 00	1 00	50

BOUQUET—(HAND).—

No. 14.	Not more than 9 in. in diameter, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 15. Any variety, named, gratuity.

PEAR.—

No. 16. Any variety, named, gratuity.

VEGETABLE.—

CABBAGE,

No. 17.	Brunswick, 3 specimens, three premiums.	$1 50	1 00	50	
No. 18.	Savoy, 3 specimens, three premiums.....	1 50	1 00	50	
No. 19.	Red Dutch, 3 specimens, three premiums.	1 50	1 00	50	

CELERY,

No. 20.	Six specimens, three premiums.....	1 50	1 00	50	

SQUASH,

No. 21.	Marblehead, 3 specimens, three premiums	1 50	1 00	50
No. 22.	Hubbard, 3 specimens, three premiums	1 50	1 00	50

TURNIP,

No. 23.	Swede, Yellow, 6 specimens, three premiums	1 50	1 00	50
No. 24.	Swede, White, 6 specimens, three premiums	1 50	1 00	50
No. 25.	White Egg, 12 specimens, three premiums	1 50	1 00	50

BEET,

No. 26.	Turnip, three premiums	1 50	1 00	50

CARROT,

No. 27.	Intermediate, three premiums	1 50	1 00	50

LETTUCE,

No. 28.	Six heads, three premiums	$2 00	1 50	1 00

Thursday, April 17.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at* 3½ *o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS—BASKET.—

No. 29.	For the best round basket, on stand, not to exceed 15 inches in diameter, 4 premiums	$3 00	2 00	1 00	50

ZONALE GERANIUM,—IN BLOOM.—

No. 30.	Four plants, distinct in color, 4 premiums	3 00	2 00	1 00	50

CUT FLOWERS.

No. 31.	Twenty vases, not to exceed 5 blooms, clusters, sprays or spikes in each, four premiums	3 00	2 00	1 00	50

HYACINTH,—IN BLOOM.—

No. 32. Twelve plants, not less than 6 varieties, four premiums.....$4 00 3 00 2 00 1 00

NARCISSUS,—DISPLAY.—

No. 33. Four premiums 4 00 3 00 2 00 1 00

TULIP.—

No. 34. Six pots or pans, not to exceed 12 bulbs in each, not less than three varieties, four premiums..... 4 00 3 00 2 00 1 00

APPLE.—

No. 35. Any variety, named, gratuity.

PEAR.—

No. 36. Any variety, named, gratuity.

VEGETABLE.—

HORSE RADISH,

No. 37. Three premiums $1 50 1 00 50

PARSNEP,

No. 38. (Student), three premiums..... 1 50 1 00 50
No. 39. (Hollow Crown), three premiums..... 1 50 1 00 50

RADISH,

No. 40. Two bunches (6 in each bunch), three premiums 1 50 1 00 50

SALSIFY,

No. 41. Three premiums 1 50 1 00 50

LETTUCE,

No. 42. Six heads, four premiums.... ...$2 00 1 50 1 00 50

RHUBARB,

No. 43. Same variety, three premiums..... 1 50 1 00 50

DANDELION (cultivated),

No. 44. One-half peck, three premiums..... ..$1 50 1 00 50

SPINACH,

No. 45. One-half peck, three premiums..... 1 50 1 00 50

Thursday, May 22.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at* $3\frac{1}{2}$ *o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

PANSY,—NO DUPLICATES.—

No. 46. One stand, one stem in a vial, four premiums. $3 00 2 00 1 00 50

No. 47. Six plants in bloom, distinct in color, exhibited in pots, four premiums 3 00 2 00 1 00 50

BOUQUET,—HAND.—

No. 48. Not to exceed 9 inches in diameter, four premiums..... 3 00 2 00 1 00 50

BULBS AND TUBERS—(HARDY)—OPEN CULTURE.—

No. 49. Display, in vases (no duplicates), four premiums 3 00 2 00 1 00 50

HYACINTH,—OPEN CULTURE.—

No. 50. Display, in vases (no duplicates), four premiums 3 00 2 00 1 00 50

PELARGONIUM—(FANCY AND SHOW)—IN BLOOM.—

No. 51. Four plants, of distinct varieties, four premiums 3 00 2 00 1 00 50

BEGONIA,—IN BLOOM.—

No. 52. One plant, four premiums 3 00 2 00 1 00 50

TULIP,—OPEN CULTURE.—

No. 53.	Display, in vases (no duplicates), four premiums	3 00	2 00	1 00	50

CUT FLOWERS.—

No. 54.	Stand, four premiums	3 00	2 00	1 00	50
No. 55.	Basket, oval, with handle, on stand, not to exceed 15 in., four premiums	3 00	2 00	1 00	50

AZALEA—(MOLLIS).—

No. 56.	For the best display in vases, four premiums	3 00	2 00	1 00	50

VEGETABLE.—

RADISH,

No. 57.	Three premiums	$1 50	1 00	50	

ONION (bunched),

No. 58.	Two bunches, six in each bunch, three premiums	1 50	1 00	50	

RHUBARB,

No. 59.	Linnæus, three premiums	1 50	1 00	50	
No. 60.	Victoria, three premiums	1 50	1 00	50	

ASPARAGUS,

No. 61.	Two bunches, three premiums	1 50	1 00	50	

DANDELION,

No. 62.	Cultivated, half-peck, three premiums	1 50	1 00	50	

SPINACH,

No. 63.	Half-peck, three premiums	1 50	1 00	50	

Thursday, June 5.

☞ *The* Committee on Arrangements and Exhibitions *will meet at* $3\frac{1}{2}$ *o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS,—distinct.—

No. 64.	One Stand—(the varieties of any species must not exceed three), four premiums	$3 00	2 00	1 00	50
No. 65.	One Vase,—the specimens not to be tied or wired, three premiums.		2 00	1 00	50

IRIS.—

No. 66.	Ten vases, four premiums	3 00	2 00	1 00	50

CLEMATIS.—

No. 67.	Display, in vases, two premiums			2 00	1 00

FUCHSIA,—distinct varieties.—

No. 68.	Four plants in bloom, four premiums	3 00	2 00	1 00	50

RHODODENDRON.—

No. 69.	Display, in vases, four premiums	3 00	2 00	1 00	50

AZALEA—Ghent.—

No. 70.	Display, in vases, four premiums	3 00	2 00	1 00	50

CUT FLOWERS.—

No. 71.	From hardy plants and shrubs, display not to exceed 25 vases, four premiums	3 00	2 00	1 00	50

VEGETABLE.—

Asparagus,

No. 72.	Two bunches, three premiums	$1 50		1 00	50

CUCUMBER,

No. 73.	Three specimens, three premiums		1 50	1 00	50

SPINACH,

No. 74.	Half-peck, three premiums		1 50	1 00	50

Thursday, June 13.

HYDRANGEA,—ONE PLANT, IN BLOOM.—

No. 75.	Hortensis, three premiums	$2 00	1 00		50
No. 76.	Otaksa, three premiums		2 00	1 00	50
No. 77.	Thomas Hogg, three premiums		2 00	1 00	50

BASKET.—Oval, flat, not to exceed 18 inches.

No. 78.	AMATEUR,—four premiums	$3 00	2 00	1 00	50
No. 79.	FLORIST,—four premiums	3 00	2 00	1 00	50

BOUQUET—PARLOR.—

No. 80.	AMATEUR,—four premiums	3 00	2 00	1 00	50
No. 81.	FLORIST,—four premiums	3 00	2 00	1 00	50

STRAWBERRY.—

No. 82. Any variety, gratuity.

VEGETABLE.—

PEA,

No. 83.	One half-peck, four premiums	$2 00	1 50	1 00	50

LETTUCE,

No. 84.	Six heads, three premiums		1 50	1 00	50

Thursday, June 19.

☞This exhibition will be open to the public from 3 P. M. until 5.30 P. M.

ROSE.—

[To be Shown in the Vases of the Society.]

No. 85.	For the best twelve blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums	$4 00	3 00	2 00	1 00
No. 86.	For the best six blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums	4 00	2 00	1 00	50
No. 87.	For the best stand of Roses, four premiums	3 00	2 00	1 00	50
No. 88.	Moss Roses. Best display, four premiums	3 00	2 00	1 00	50
No. 89.	For the best basket or dish of Roses, three premiums		2 00	1 00	50
	Digitalis. (Foxglove.)				
No. 90.	Display, three premiums		2 00	1 00	50
	Campanula Media. (Canterbury Bell).				
No. 91.	Display, three premiums		2 00	1 00	50
	Dianthus Barbatus. (Sweet William).				
No. 92.	Display, four premiums	3 00	2 00	1 00	50
	Pæonia.				
No. 93.	Twenty vases, four premiums	3 00	2 00	1 00	50

STRAWBERRY.—

No. 94.	Bidwell, 24 berries, flat, three premiums		1 50	1 00	50
No. 95.	Bubach, 24 berries, flat, three premiums		1 50	1 00	50

No. 96.	Charles Downing, 24 berries, flat, four premiums	$2 00	1 50	1 00	50
No. 97.	Crescent, 24 berries, flat, three premiums		1 50	1 00	50
No. 98.	Sharpless, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 99.	Other varieties, not scheduled, 24 berries, flat, gratuity.				

VEGETABLE.—

PEA,

No. 100.	Any variety, named, one-half peck, premiums	$2 00	1 50	1 00

BEET,

No. 101.	Early, 12 specimens, three premiums	1 50	1 00	50

Thursday, June 26.

LILIUM.—

No. 102.	Ten vases, four premiums	$3 00	2 00	1 00	50

CUT FLOWERS.—

No. 103.	For the best arranged stand, without restriction as to foliage, varieties, or quantity of flowers, four premiums	3 00	2 00	1 00	50

HARDY FLOWERS,—BIENNIALS AND PERENNIALS.—

No. 104.	Display, not to exceed 25 vases, four premiums	$3 00	2 00	1 00	50

STRAWBERRY.—

No. 105.	Belmont, 24 berries, flat, three premiums.		1 50	1 00	50
No. 106.	Jersey Queen, 24 berries, flat, three premiums		1 50	1 00	50

No. 107.	Jewell, 24 berries, flat, three premiums	$1 50	1 00	50	
No. 108.	Jucunda, 24 berries, flat, three premiums	1 50	1 00	50	
No. 109.	Manchester, 24 berries, flat, three premiums	1 50	1 00	50	
No. 110.	Miner, 24 berries, flat, three premiums	1 50	1 00	50	
No. 111.	Triomphe de Gand, 24 berries, flat, three premiums	1 50	1 00	50	
No. 112.	Other varieties, not scheduled, 24 berries, flat, gratuity.				

VEGETABLE.—

BEAN (Snap),

No. 113.	Green Pod, one-half peck, three premiums	$2 00	1 50	1 00	

PEA,

No. 114.	McLean's Advancer, one-half peck, three premiums	2 00	1 50	1 00	

BEET,

No. 115.	Turnip-rooted, 12 specimens, three premiums	1 50	1 00	50	

Thursday, July 10.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at* $3\frac{1}{2}$ *o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

ZONALE GERANIUM.—

No. 116.	For the best stand, 1 truss in a vial, four premiums	$3 00	2 00	1 00	50
No. 117.	LILIUM CANDIDUM. 12 spikes, four premiums	3 00	2 00	1 00	50

GLOXINIA,—POTS.—

No. 118.	Six varieties, in bloom, four premiums	3 00	2 00	1 00	50

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 119.	24 vases, four premiums	$3 00	2 00	1 00	50

IRIS KÆMPFERI.

No. 120.	20 vases, one spike in each, four premiums	3 00	2 00	1 00	50

CURRANT.—

No. 121.	Fay, 24 bunches, three premiums.		$1 50	1 00	50
No. 122.	Red Dutch, 24 bunches, four premiums	2 00	1 50	1 00	50
No. 123.	White Dutch, 24 bunches, three premiums		1 50	1 00	50
No. 124.	Versaillaise, 24 bunches, four premiums	$2 00	1 50	1 00	50
No. 125.	White Grape, 24 bunches, three premiums		1 50	1 00	50
No. 126.	Other varieties, not scheduled, gratuity.				

RASPBERRY.—

No. 127.	Cuthbert, one quart, three premiums		1 50	1 00	50
No. 128.	Brandywine, one quart, three premiums.		1 50	1 00	50
No. 129.	Hansell, one quart, three premiums		1 50	1 00	50
No. 130.	Hudson River Antwerp, one quart, three premiums		1 50	1 00	50
No. 131.	Marlboro', one quart, three premiums		1 50	1 00	50
No. 132.	Northumberland, one quart, three premiums		1 50	1 00	50
No. 133.	Turner, one quart, three premiums		1 50	1 00	50
No. 134.	Other varieties, not scheduled, gratuity.				

RASPBERRY,—BLACKCAP.—

No. 135.	Davison, one quart, two premiums			$1 00	50
No. 136.	Doolittle, one quart, two premiums			1 00	50
No. 137.	Gregg, one quart, two premiums			1 00	50
No. 138.	Mammoth Cluster, one quart, two premiums			1 00	50
No. 139.	Souhegan, one quart, two premiums			1 00	50
No. 140.	Other varieties, not scheduled, gratuity.				

CHERRY.—

No. 141. Any variety, named, one quart, four premiums.....$2 00 1 50 1 00 50

STRAWBERRY.—

No. 142. Any variety, 24 berries, flat, gratuity.

VEGETABLE.—

PEA,

No. 143. Stratagem, three premiums.....$2 00 1 50 1 00
No. 144. Yorkshire Hero, three premiums 2 00 1 50 1 00
No. 145. Champion of England, three premiums. 2 00 1 50 1 00
No. 146. Other varieties, not scheduled, gratuity.

CABBAGE,

No. 147. Three specimens, gratuity.

POTATO,

No. 148. Any named variety, 12 specimens, three premiums..... 2 00 1 50 1 00

BEAN,

No. 149. Wax—(snap), three premiums..... 2 00 1 50 1 00

Thursday, July 17.

CUT FLOWERS,—SEEDLINGS OF 1890.

No. 150. Stand, four premiums..... .....$3 00 2 00 1 00 50

BASKET,—Round, flat, not to exceed 18 in. in diameter.

No. 151. AMATEUR,—four premiums 3 00 2 00 1 00 50
No. 152. FLORIST,—four premiums..... 3 00 2 00 1 00 50

PETUNIA,—One spray in each vial.

No. 153. Stand, four premiums..... .. 3 00 2 00 1 00 50

RASPBERRY.—

No. 154.	Brincklé's Orange, one quart, three premiums	$1 50	1 00	50	
No. 155.	Hornét, one quart, three premiums	1 50	1 00	50	
No. 156.	Any other variety, one quart, gratuity.				

VEGETABLE.—

CABBAGE,

No. 157.	Brunswick, three specimens, three premiums	$1 50	1 00	50	
No. 158.	Henderson, three premiums	1 50	1 00	50	

SQUASH,

No. 159.	Three Summer Crookneck, two premiums.		1 00	50	
No. 160.	Three Scallop, two premiums		1 00	50	

TOMATO,

No. 161.	Any named variety, three premiums	$2 00	1 50	1 00	

Thursday, July 24.

BOUQUET,—PARLOR.—Not to exceed 15 in. from base to tip.

No. 162.	AMATEUR,—four premiums	$3 00	2 00	1 00	50
No. 163.	FLORIST,—four premiums	3 00	2 00	1 00	50

PHLOX DRUMMONDI.—

No. 164.	Stand, four premiums	3 00	2 00	1 00	50

HOLLYHOCK.—

No. 165.	Twenty blooms in vases, four premiums	3 00	2 00	1 00	50

SWEET PEA.—

No. 166.	Stand, not exceeding twelve stems in a vial, four premiums	3 00	2 00	1 00	50

BLACKBERRY.—

No. 167. Agawam, one quart, two premiums.....$1 00 50
No. 168. Early Harvest, one quart, two premiums..... 1 00 50

GOOSEBERRY.—

No. 169. One quart, of any named variety, gratuity.

PEAR.—

No. 170. D'Eté, three premiums.....$1 50 1 00 50

VEGETABLE.—

BEAN,

No. 171. Dwarf Horticultural (shell), half-peck, three premiums..... .....$1 50 1 00 50
No. 172. Any other (named) variety, three premiums 1 50 1 00 50

CORN,

No. 173. (Sweet), four premiums $2 00 1 50 1 00 50

POTATO,—12 specimens.

No. 174. Hebron, three premiums..... 1 50 1 00 50
No. 175. Polaris, three premiums..... 1 50 1 00 50
No. 176. Potentate, three premiums..... 1 50 1 00 50
No. 177. Rose, three premiums..... 1 50 1 00 50

Thursday, July 31.

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 178. Twenty blooms, clusters, sprays or spikes, in vases, four premiums $3 00 2 00 1 00 50

BASKET,—NO LIMIT OR RESTRICTION.—

No. 179. AMATEUR,—four premiums..... 3 00 2 00 1 00 50
No. 180. FLORIST,—four premiums 3 00 2 00 1 00 50

APPLE.—

No. 181. Any variety, gratuity.

PEAR.—

No. 182. Any variety, not scheduled, gratuity.

BLACKBERRY.—

No. 183.	Kittatinny, one quart, two premiums	$1 00		50
No. 184.	Snyder, one quart, two premiums	1 00		50
No. 185.	Wachusett, one quart, two premiums	1 00		50
No. 186.	Other varieties, not scheduled, gratuity.			

VEGETABLE.—

CORN,

No. 187.	Crosby, three premiums	$2 00	1 50	1 00

CUCUMBER,

No. 188.	Three specimens, two premiums		1 00	50

TOMATO,

No. 189.	Acme, three premiums	1 50	1 00	50

Thursday, August 8.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at* $3\frac{1}{2}$ *o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

ANTIRRHINUM,—SNAP DRAGON.—

No. 190.	Stand, four premiums	$3 00	2 00	1 00	50

GERMAN STOCKS.—

No. 191.	Stand, four premiums	3 00	2 00	1 00	50

PINK—(ALL KINDS).—

No. 192.	Stand, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 193.	Astrachan, four premiums.....	$2 00	1 50	1 00	50
No. 194.	Sweet Bough, three premiums....		1 50	1 00	50
No. 195.	Tetofsky, three premiums.....		1 50	1 00	50

PEAR.—

No. 196.	Giffard, four premiums.....	2 00	1 50	1 00	50

PEACH.—

No. 197. Any variety, gratuity.

VEGETABLE.—

BEAN (shell),

No. 198.	Concord, half-peck, in pods, three premiums	$1 50	1 00	50	

TOMATO,

No. 199.	Livingston's Perfection, three premiums.	1 50	1 00	50	

Thursday, August 14.

CUT FLOWERS.—

No. 200.	Stand, four premiums.....	$3 00	2 00	1 00	50

GLADIOLUS—(DISTINCT VARIETIES,)—NAMED.

No. 201.	Twenty vases, 1 spike in each, four premiums..... ...	$4 00	3 00	2 00	1 00

SALPIGLOSSIS.—

No. 202.	Stand, four premiums.....	3 00	2 00	1 00	50

APPLE.—

No. 203.	Oldenburg, four premiums... ...	$2 00	1 50	1 00	50
No. 204.	Any variety, not scheduled, gratuity.				

APRICOT.—

No. 205.	Any variety, gratuity.....			$1 00	50

PEAR.—

No. 206.	Clapp, five premiums.....	$3 00	2 00	1 50	1 00	50

PEACH.—

No. 207.	Alexander, three premiums.....	$1 50	1 00	50
No. 208.	Beatrice, three premiums.....	1 50	1 00	50
No. 209.	Cole's Early Red, two premiums.....		1 00	50
No. 210.	Rivers, three premiums.....	1 50	1 00	50

VEGETABLE.—

SQUASH,

No. 211.	Marrow, 3 specimens, three premiums..	$1 50	1 00	50

TOMATO,

No. 212.	Beauty, three premiums.....	1 50	1 00	50

CORN,

No. 213.	(Sweet), 12 ears, of not less than 12 rows, three premiums.....	1 50	1 00	50

Thursday, August 21.

ASTER.—

No. 214.	Rose, 20 vials, 1 bloom in each, three premiums.....	$2 00	1 00	50
No. 215.	Hedgehog, 20 vials, 1 bloom in each, three premiums.....	2 00	1 00	50
No. 216.	Cocardeau (Crown), 20 vials, 1 bloom in each, three premiums.....	2 00	1 00	50
No. 217.	Victoria, 20 vials, 1 bloom in each, three premiums	2 00	1 00	50
No. 218.	POMPON, stand, one spray of not more than 6 blooms in each vial, four premiums.....	$3 00	2 00	1 00	50

No. 219. TRUFFAUT, — PÆONY - FLOWERED, stand, 3 blooms in each vial, four premiums.....$3 00 2 00 1 00 50

GLADIOLUS,—HARDY,—LEMOINE'S HYBRIDS.

No. 220. Twenty vases, one spike in each, four premiums.....$3 00 2 00 1 00 50

PHLOX—PERENNIAL.—

No. 221. Twenty vases, four premiums....$3 00 2 00 1 00 50

APPLE.—

No. 222. Somerset, three premiums..... $1 50 1 00 50
No. 223. Williams, four premiums..... 2 00 1 50 1 00 50

PEAR.—

No. 224. Rostiezer, three premiums. $1 50 1 00 50
No. 225. Tyson, three premiums..... 1 50 1 00 50

PEACH.—

No. 226. Hale, three premiums..... 1 50 1 00 50

VEGETABLE.—

BEAN—(HALF-PECK IN POD.)—

No. 227. Horticultural (pole), three premiums..$1 50 1 00 50
No. 228. Goddard, three premiums... ..... 1 50 1 00 50

SQUASH—TURBAN.

No. 229. Three specimens, three premiums..... 2 00 1 50 1 00

Thursday, August 28.

SCABIOSA.—

No. 230. Stand, not exceeding six flowers in a vial, four premiums.....$3 00 2 00 1 00 50

ZINNIA.—

No. 231.	Stand, at least twelve varieties, one flower in a vial, four premiums	$3 00	2 00	1 00	50

LILIUM SPECIOSUM.—

No. 232.	Display, in vases, four premiums	$3 00	2 00	1 00	50

MARIGOLD.—

No. 233.	Stand, four premiums	$3 00	2 00	1 00	50

BEGONIA—(Tuberous Rooted)—in bloom.—

No. 234.	Six plants, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 235. Any variety, not scheduled, gratuity.

APPLE—(Crab).—

No. 236.	Transcendent, 24 specimens, three premiums	$1 50	1 00	50	

NECTARINE.—

No. 237.	Any variety, two premiums		$1 00	50	

PEAR.—

No. 238.	Assomption, three premiums	$1 50	1 00	50	
No. 239.	Petite Marguerite, three premiums	1 50	1 00	50	

PEACH.—

No. 240.	Cooledge, two premiums		$1 00	50	
No. 241.	George IV., two premiums		1 00	50	
No. 242.	Foster, two premiums		1 00	50	
No. 243.	Richmond, two premiums		1 00	50	

PLUM.—

No. 244.	Bradshaw, three premiums	$1 50	1 00	50	
No. 245.	McLaughlin, three premiums	1 50	1 00	50	
No. 246.	Washington, three premiums	1 50	1 00	50	

VEGETABLE.—

LIMA BEANS,

No. 247. Large, half-peck, three premiums....$1 50 1 00 50

CAULIFLOWER,

No. 248. Three specimens, three premiums..... 2 00 1 50 1 00

TOMATO,

No. 249. Any variety, not scheduled, three premiums 1 50 1 00 50

Thursday, September 4.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at* 3½ *o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS.—

No. 250. Stand, four premiums. $3 00 2 00 1 00 50

BOUQUET—(PARLOR).—

No. 251. AMATEUR,—four premiums $3 00 2 00 1 00 50
No. 252. FLORIST,—four premiums... .... 3 00 2 00 1 00 50

DAHLIA.—

LARGE-FLOWERED,

No. 253. Twenty vases, one flower in each, four premiums.....$3 00 2 00 1 00 50

POMPON,

No. 254. Twenty vases, one spray in each, four premiums..... 3 00 2 00 1 00 50

NASTURTIUM AND TROPÆOLUM.—

No. 255. Stand, not more than 12 blooms in each bottle, four premiums.....$3 00 2 00 1 00 50

CLEMATIS.—

No. 256. Display, in vases, two premiums. $2 00 1 00

VERBENA.—

No. 257.	Stand, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 258.	Golden Sweet, three premiums	$1 50	1 00	50	
No. 259.	Worcester Spy, three premiums	1 50	1 00	50	
No. 260.	Other varieties, not scheduled, gratuity.				

PEAR.—

No. 261.	Ansault, three premiums	$1 50	1 00	50	
No. 262.	Earle's Bergamot, three premiums	1 50	1 00	50	
No. 263.	St. Ghislain, four premiums	2 00	1 50	1 00	50

PEACH.—

No. 264.	Crawford (Early), two premiums	$1 00	50		
No. 265.	Oldmixon, two premiums	1 00	50		

PLUM.—

No. 266.	Imperial Gage, three premiums	$1 50	1 00	50	
No. 267.	Gen. Hand, three premiums	1 50	1 00	50	
No. 268.	Victoria, three premiums	1 50	1 00	50	

VEGETABLE.—

CUCUMBER,

No. 269.	Half-peck (for pickles), three premiums	$1 50	1 00	50	

CORN,

No. 270.	(Sweet), 12 ears, of not less than 12 rows, three premiums	1 50	1 00	50	

PEPPER,—12 specimens.

No. 271.	Squash, two premiums	$1 00	50		
No. 272.	Large Bell, two premiums	1 00	50		
No. 273.	Mammoth, two premiums	1 00	50		

Thursday, September 11.

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 274. Twenty vases, one bloom, cluster, spray or spike in each, four premiums $3 00 2 00 1 00 50

GERANIUM,—One truss in a vial.

No. 275. Stand, four premiums $3 00 2 00 1 00 50

PANSY,—WITH FOLIAGE.—

No. 276. Stand, one stem in each vial, four premiums $3 00 2 00 1 00 50

DAHLIA,—SINGLE.—

No. 277. Twenty vases, one spray in each, three premiums $1 50 1 00 50

APPLE.—

No. 278. Garden Royal, three premiums $1 50 1 00 50

PEAR.—

No. 279. Bartlett, five premiums ... $3 00 2 00 1 50 1 00 50
No. 280. Lucrative, three premiums 1 50 1 00 50
No. 281. Pratt, three premiums 1 50 1 00 50

PLUM.—

No. 282. Fellenberg, three premiums $1 50 1 00 50
No. 283. Lombard, three premiums 1 50 1 00 50
No. 284. Monroe, three premiums 1 50 1 00 50
No. 285. Quackenboss, three premiums 1 50 1 00 50
No. 286. Jefferson, three premiums 1 50 1 00 50

PEACH.—

No. 287. Oldmixon, two premiums $1 00 50

GRAPE.—

No. 288. Moore, three clusters, three premiums. $1 50 1 00 50
No. 289. Grown under glass, three clusters, three premiums 3 00 2 00 1 00

MELON.—

No. 290. Yellow Flesh, three specimens, two premiums..$1 00 50
No. 291. Green Flesh, three specimens, two premiums... 1 00 50

WATER,

No. 292. Two specimens, two premiums... ..... 1 00 50

VEGETABLE.—

CABBAGE,

No. 293. Brunswick, three specimens, three premiums..... .....,$1 50 1 00 50

Thursday, September 18.

ASTER.—

No. 294. Forty vases, four premiums.....$3 00 2 00 1 00 50

CUT FLOWERS—(BASKET).—

Not to exceed fifteen inches, oval, with handle, on stand.

No. 295. AMATEUR,—four premiums.....$3 00 2 00 1 00 50
No. 296. FLORIST,—four premiums..... 3 00 2 00 1 00 50

CUT FLOWERS—STAND.

No. 297. Four premiums $3 00 2 00 1 00 50

APPLE.—

No. 298. Gravenstein, five premiums.$3 00 2 00 1 50 1 00 50
No. 299. Porter, three premiums 1 50 1 00 50

APPLE,—CRAB.

No. 300. Hyslop, twenty-four, two premiums.....$1 00 50

PEAR.—

No. 301. Durandeau, three premiums.....$1 50 1 00 50
No. 302. Paradis d'Automne, four premiums. 2 00 1 50 1 00 50
No. 303. Other varieties, not scheduled, gratuity.

PEACH.—

No. 304.	Crawford (late), two premiums	$1 00	50		
No. 305.	Stump the World, two premiums	1 00	50		
No. 306.	Other varieties, not scheduled, gratuity.				
No. 307.	New Seedling, originated in Worcester County, three premiums	$1 50	1 00	50	

PLUM.—

No. 308.	Coe's Golden Drop, three premiums	$1 50	1 00	50	
No. 309.	Reine Claude de Bavay, three premiums	1 50	1 00	50	

GRAPE.—

No. 310.	Brighton, three clusters, three premiums	$1 50	1 00	50	
No. 311.	Lady, three clusters, three premiums	1 50	1 00	50	
No. 312.	Lindley, three premiums	1 50	1 00	50	
No. 313.	Massasoit, three clusters, three premiums	1 50	1 00	50	
No. 314.	Worden, three clusters, three premiums	1 50	1 00	50	

VEGETABLE.—

CARROT,

No. 315.	Any variety, three premiums	$1 50	1 00	50	

EGG PLANT,

No. 316.	Three specimens, three premiums	2 00	1 00	50	

CABBAGE,

No. 317.	Red, three specimens, three premiums	1 50	1 00	50	
No. 318.	Savoy, three specimens, three premiums	1 50	1 00	50	

CAULIFLOWER,

No. 319.	Three specimens, four premiums	2 00	1 50	1 00	50

Thursday, September 25.

CUT FLOWERS—(BASKET.)—

Not to exceed fifteen in. in diameter, flat, oval.

No. 320.	AMATEUR,—four premiums	$3 00	2 00	1 00	50
No. 321.	FLORIST,—four premiums	3 00	2 00	1 00	50

CUT FLOWERS—(STAND.)—

No. 322.	Four premiums	$3 00	2 00	1 00	50

GLADIOLUS.—

No. 323.	Display, no duplicates, in vases, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 324.	American Beauty, three premiums	$1 50	1 00	50	
No. 325.	Holden, three premiums	1 50	1 00	50	
No. 326.	Lyscom, three premiums	1 50	1 00	50	
No. 327.	McLellan, three premiums	1 50	1 00	50	
No. 328.	Mother, three premiums	1 50	1 00	50	
No. 329.	Twenty Ounce, three premiums	1 50	1 00	50	

PEAR.—

No. 330.	Buffum, two premiums			$1 00	50
No. 331.	Hardy, three premiums		1 50	1 00	50
No. 332.	Louise Bonne de Jersey, five premiums	3 00	2 00	1 50	1 00	50
No. 333.	Seckel, five premiums	3 00	2 00	1 50	1 00	50
No. 334.	St. Michel Archange, two premiums			1 00	50
No. 335.	Superfin, three premiums		1 50	1 00	50
No. 336.	Urbaniste, three premiums		1 50	1 00	50
No. 337.	Washington, three premiums		1 50	1 00	50

PEACH.—

No. 338. Any variety, gratuity.

GRAPE.—

No. 339.	Concord, three clusters, four premiums	2 00	1 50	1 00	50
No. 340.	Delaware, four premiums	2 00	1 50	1 00	50
No. 341.	Iona, three clusters, three premiums		1 50	1 00	50
No. 342.	Niagara, two premiums			1 00	50
No. 343.	Pocklington, two premiums			1 00	50
No. 344.	Salem, three premiums		1 50	1 00	50
No. 345.	Wilder, three clusters, three premiums		1 50	1 00	50

No. 346. Any variety, not scheduled, gratuity.

VEGETABLE.—

No. 347.	Collection, not exceeding fifty varieties, four premiums... ...	$8 00	6 00	4 00	2 00

Thursday, October 2.

☞ *The* Committee on Arrangements and Exhibitions *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS.—

No. 348.	Stand, four premiums.....	$3 00	2 00	1 00	50
No. 349.	Hand Bouquet, not to exceed nine in. in diameter, four premiums..	3 00	2 00	1 00	50

APPLE.—

No. 350.	Ladies' Sweet, two premiums....			$1 00	50
No. 351.	Fameuse, three premiums.....		1 50	1 00	50
No. 352.	Coggswell, three premiums.....		1 50	1 00	50
No. 353.	Hubbardston, four premiums....	2 00	1 50	1 00	50
No. 354.	Maiden's Blush, three premiums		1 50	1 00	50
No. 355.	Washington Strawberry, two premiums..			1 00	50
No. 356.	Other varieties, not scheduled, gratuity.				

PEAR.—

No. 357.	Bosc, five premiums.....	$3 00	2 00	1 50	1 00	50
No. 358.	Dr. Reeder, three premiums.			1 50	1 00	50
No. 359.	Sheldon, five premiums....	3 00	2 00	1 50	1 00	50
No. 360.	Other varieties, not scheduled, gratuity.					

GRAPE,—open culture.—

No. 361. Any variety, three clusters, gratuity.

QUINCE.—

No. 362.	Champion, three premiums....		$1 50	1 00	50
No. 363.	Orange, four premiums.... ..	3 00	2 00	1 50	1 00

VEGETABLE.—

POTATO,

No. 364.	Six varieties (named), 12 specimens of each, four premiums	$3 00	2 00	1 50	1 00

SQUASH,

No. 365.	Hubbard, three specimens, three premiums	$1 50	1 00		50
No. 366.	Marblehead, three premiums	1 50	1 00		50
No. 367.	Essex-Hybrid, three premiums	1 50	1 00		50

CELERY,

No. 368.	Six, three premiums	2 00	1 00		50

Thursday, October 9.

CUT FLOWERS—(FANCY BASKET).—

No. 369.	Four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 370.	Belleflower, three premiums	$1 50	1 00		50
No. 371.	Leicester Sweet, three premiums	1 50	1 00		50
No. 372.	Sutton Beauty, three premiums	1 50	1 00		50
No. 373.	Tompkins King, four premiums	2 00	1 50	1 00	50
No. 374.	Wealthy, three premiums	1 50	1 00		50
No. 375.	Other varieties (named), not scheduled, gratuity.				

PEAR.—

No. 376.	Dix, three premiums	$1 50	1 00		50
No. 377.	Frederick Clapp, two premiums		1 00		50
No. 378.	Marie Louise, three premiums	1 50	1 00		50
No. 379.	Onondaga, three premiums	1 50	1 00		50

GRAPE.—

No. 380.	Diana, three clusters, four premiums	$2 00	1 50	1 00	50

VEGETABLE.—

No. 381. Kohl Rabi, six specimens, three premiums $1 50 1 00 50

Onion,

No. 382. Red Globe—Half-peck, three premiums. 1 50 1 00 50
No. 383. Yellow Danvers—Half-peck, three premiums 1 50 1 00 50

Salsify,

No. 384. Three premiums 1 50 1 00 50

Endive,

No. 385. Six heads, three premiums..... 1 50 1 00 50

Thursday, October 16.

CUT FLOWERS.—

No. 386. In any form, gratuity.

APPLE.—

No. 387. Pound Sweet, three premiums.....$1 50 1 00 50
No. 388. Peck, three premiums..... 1 50 1 00 50
No. 389. R. I. Greening, five premiums 3 00 2 00 1 50 1 00 50
No. 390. Other varieties, not scheduled, gratuity.

PEAR.—

No. 391. Anjou, five premiums.....$3 00 2 00 1 50 1 00 50
No. 392. Diel, three premiums..... ..... 1 50 1 00 50
No. 393. Comice, five premiums.... 3 00 2 00 1 50 1 00 50

VEGETABLE.—

No. 394. Butman Squash, three specimens, three premiums.....$1 50 1 00 50
No. 395. Brussells Sprouts, half-peck, three premiums 1 50 1 00 50

Thursday, October 23.

FERN.—

No. 396.	Best plant, three premiums	$2 00	1 00	50

PALM.—

No. 397.	Best plant, three premiums	$2 00	1 00	50

POT PLANTS,—IN BLOOM.—

No. 398. Gratuity.

DECORATIVE AND ORNAMENTAL PLANTS.—

No. 399. Gratuity.

APPLE.—

No. 400.	Baldwin, six premiums	$4 00	3 00	2 00	1 50	1 00	50
No. 401.	Canada Red (Old Nonesuch), three premiums				1 50	1 00	50
No. 402.	McIntosh, two premiums					1 00	50
No. 403.	Northern Spy, five premiums		3 00	2 00	1 50	1 00	50
No. 404.	Roxbury Russet, four premiums			2 00	1 50	1 00	50
No. 405.	Golden Russet of Mass., three premiums				1 50	1 00	50
No. 406.	Golden Russet, Sweet, two premiums					1 00	50
No. 407.	Golden Russet, three premiums				1 50	1 00	50
No. 408.	Red Russet, three premiums				1 50	1 00	50
No. 409.	Palmer, three premiums				1 50	1 00	50
No. 410.	Lemon Greening, two premiums					1 00	50
No. 411.	Collection, not to exceed ten varieties, not scheduled, four premiums	5 00	3 00	2 00	1 00		

PEAR.—

No. 412.	Clairgeau, three premiums	$1 50	1 00	50
No. 413.	Langelier, three premiums	1 50	1 00	50

No. 414.	Dana's Hovey, three premiums.		1 50	1 00	50
No. 415.	Angoulême, four premiums.....	2 00	1 50	1 00	50
No. 416.	Josephine de Malines, three premiums..		1 50	1 00	50
No. 417.	Lawrence, four premiums.....	2 00	1 50	1 00	50
No. 418.	Winter Nelis, five premiums.	3 00	2 00	1 50	1 00	50
No. 419.	Mount Vernon, two premiums.....			1 00	50

VEGETABLE.—

CELERIAC,

No. 420.	Six specimens, three premiums.....	$1 50	1 00	50

CELERY,

No. 421.	Four premiums	$4 00	3 00	2 00	1 00

CHRYSANTHEMUM.

SEVENTH SPECIAL EXHIBITION

ON

Wednesday, November 12th,

AND

Thursday, November 13th, 1890.

[N. B. All the specimens placed in competition must be from the best types, and owned and grown by the competitor three months.]

No. 1. For the best six Chinese, or large-flowered in pots,—distinct named varieties, four premiums.....
$8 00 6 00 5 00 4 00

No. 2. For the best six Japanese, in pots, distinct named varieties, four premiums..... ...
$8 00 6 00 5 00 4 00

No. 3. For the best six Pompon, in pots, distinct named varieties, four premiums... .....
$8 00 6 00 5 00 4 00

No. 4. For the best three plants, in pots, from Amateurs,—distinct (not named), four premiums.....
$5 00 3 00 2 00 1 00

No. 5. For the best display, in pots, any variety, four premiums ....
$8 00 6 00 4 00 2 00

No. 6. For Specimen Plant, of any variety, four premiums.
$4 00 3 00 2 00 1 00

No. 7. For the best six Japanese, in pots, not to exceed 8 in., and not to exceed 4 blooms on each, three premiums ....
$4 00 3 00 2 00

No. 8. For twelve Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums..
$4 00 3 00 2 00

No. 9. For six Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums.....
$3 00 2 00 1 00

No. 10. For six Cut Blooms of Chinese, or large-flowered, named, with long stems and foliage, in vases, four premiums.... ....
$4 00 3 00 2 00 1 00

No. 11. For twenty-four sprays, Chinese or Japanese, named, not less than twelve varieties, in vases, four premiums ....
$5 00 4 00 3 00 2 00

No. 12. For twenty-four sprays Pompons, named, not less than six varieties, in vases, three premiums.....
$3 00 2 00 1 00

No. 13. For one Cut Bloom of Japanese, named, with long stem and foliage, two premiums. .....
$2 00 1 00

No. 14. Tall Vase, all of one color, long stems, with foliage, three premiums..... .....
$3 00 2 00 1 00

There will be no restrictions as to the manner of displaying Cut Blooms.

The sum of Sixteen Dollars may be awarded in gratuities for meritorious exhibits.

☞This Exhibition will be open to the public from 2 P. M. until 9 P. M., Wednesday, and from 10 A. M. until 9 P. M., Thursday.

ADMISSION 10 CENTS.

N. B. All articles intended for this Special Exhibition, must be in the Hall, and ready for inspection by the Judge by 12 o'clock M., precisely, of the first day of the Exhibition.

By authority of the

COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS.

Attest:

EDWARD WINSLOW LINCOLN,

Secretary.

OFFICERS AND COMMITTEES
OF THE
WORCESTER COUNTY HORTICULTURAL SOCIETY,
FOR THE YEAR 1889-90.

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HORTICULTURAL HALL

TRANSACTIONS

OF THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY,

A. D. 1891–92.

INCLUDING:

NARRATIVE OF ITS FIRST SEMI-CENTENNIAL FESTIVAL.

Worcester, Mass.
CHARLES HAMILTON, PRINTER.
311 MAIN STREET.
1892.

PREFACE.

The Committee on Library and Publication regret the delay which has so long deferred this issue. But accuracy was desirable before all; and haste became impossible when reports and revision had to be secured from divers and remote sources. It is believed that no errors will be detected that reasonable precaution could prevent.

The Committee would especially make public their deep sense of obligation to the Publishers of the *Worcester Daily Spy* for its very ample and elaborate account of the Semi Centennial Celebration. The indebtedness of the Society to that newspaper, throughout the past fifty years, has been great, although never permitted to become onerous. It is of bright augury for the best interests of Horticulture in this flourishing county, that the goodwill and sympathy of that excellent journal bid fair to be continued.

For the Committee,

EDWARD WINSLOW LINCOLN,

Chairman.

Horticultural Hall,
Worcester, Massachusetts,
September 1, A. D., 1892.

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WORCESTER COUNTY
HORTICULTURAL SOCIETY,
A. D. 1891.

ANNUAL REPORT OF THE SECRETARY.

To the Members of the

WORCESTER COUNTY HORTICULTURAL SOCIETY:

In the winter months of our late Horticultural year, your attention was invited, and your interest attracted, to a series of Essays and Lectures upon topics of manifold concern and diversity pertaining to our chosen pursuit. Collected in one volume, they were promptly published among the TRANSACTIONS of the Society, where they will be preserved to attest, in some inadequate measure, our fidelity to duty. There are many copies remaining, to which it is hoped appropriate circulation may be given.

At the conclusion of that series, a Reunion was held, followed by a Banquet, whereat the attendance of Members of the Society was so large as to exhaust the capacity of our Hall. Upon that occasion your *Secretary* was requested to respond to a sentiment which, with his remarks, he incorporates here and makes a portion of his Annual Report, insomuch as its substance consisted largely of topical reminiscences and is entirely devoted to matters of Horticultural moment:

"The Worcester County Horticultural Society!

"It has carried out its beneficent work for nearly a half-century:

"Its mission has been to encourage the cultivation of the

choicest varieties of Flowers, and Fruits, and Vegetables; and to develop the love of the beautiful:

"How well it has fulfilled its mission, our attractive homes and quickened æsthetic public taste, attest!"

You ask me to respond to that sentiment. Can I? Should I *try*, to say anything new! The text is one, than which none other is so familiar; one from which exhortation has been so often repeated as to savor almost of monotony. You would suggest a recurrence to that time when, through the whole prosperous village, there might be traced the one invariable Main Street, bounded by large individual estates which, in their turn, were defined by a fringe of lilac, horse-chestnut, or syringa. The population was homogeneous; largely confined to the pursuits of Terræculture, in which the more prominent professional men were wont to warm—perchance scorch? their fingers. The orchards of *Judge* Nathaniel Paine, *Gov.* Lincoln, Elisha Flagg, and *Dr.* John Green, over-lapped each other along the western ridge; and in them the Early Harvest and River tempted juvenile honesty, while the Baldwin and Nonesuch commended themselves to the thrifty housewife. The Bartlett was winning its way, thanks to the tried skill and approved grafting-wax of Levi Gates,—a name ever to be held in respect! If the new comer had to be worked upon the mealy Orange, or the very tolerable Bon Chrétien, its substitution marked a most decided step in advance. There could be found, in their season, the Egg Plum; the Red, and White, Dutch Currant,—the Heart, and Mazzard, Cherries. Yet, for our fathers let it be said that they developed Peaches which we have never surpassed, if even at all equalled. They found the wild Strawberry, introduced the Alpines, and were beginning to anticipate that evolution whereof Hovey's seedling was the first notable gain. We may say also, of and for that generation; poorly off as some may regard it who know that it had to mould its tallow-dips and get fire from flint and steel; that each family would keep its cow; that children and grown people had all the huckleberries and milk they wanted; and that, compared with the udder, pedigree would not fetch a cent!

And ever as we turn from them—our Founders, let us not forget to pay due honor to the memory of Oliver Fiske,—the ardent patriot, the good physician, the pioneer Horticulturist of Worcester;—City or County.

Man, like his accredited progenitor, is an imitative being. When he sees a good thing he appreciates and covets it. Sometimes it is right before his eyes; and yet he does not see it. Such was the case with Adam; who fell asleep one Sunday afternoon, when he had cradled his rye, and, during the nightmare that followed, or as its sequence, found himself married. Then, what must his wife do but call his attention to a particularly fine specimen of Nonesuch just above his head! I am aware that my friend Hadwen insists that it was a Sutton Beauty. But Eve was not, at that early period of her life, so near Purgatory! And besides, being herself a *Nonpareil*, she may safely be presumed to have known, and not gone back upon, her own family. However;—to get out of Eden; and more creditably than did our common ancestor, who left because his grapes were sour; let us revert to the value of object-teaching! When I was a mere lad, I first saw Red, and Yellow Antwerp Raspberries, and was entrusted with their care. That twig got a decided bent; and the tree has had a special inclination ever since. How many of you derived your first impressions of floral beauty from blooms exhibited before this Society; or learned by actual test, or inspection, that the Fruit, or Vegetable, made known to you in this Hall, was well worthy of your generous cultivation! How would you ever see them, busy as you are, unless brought to your notice! Where else could they be so well shown, as in a place erected for, and specifically assigned to them? And when thus and there displayed, it should be your own fault if you do not learn all about them from those by whom they were introduced. Did our late associate,—Joseph C. Lovell, ever come in from West Boylston, that he did not assume, by right, his proper position as preceptor of the first class in Viticulture?

You point with pride to our attractive homes and quickened æsthetic public taste for evidence of the extent to which our Society has fulfilled its mission. Largely,—you are correct in

such assumption. The newer houses indicate the diffusion of a better taste in construction; and the grounds, where any are left, disclose greater care to maintain a neat appearance. For this latter;—thanks to the genius of invention that provided the lawn-mower! Moreover the roads towards the suburbs are improving; and the old stone-walls, sold to the crusher, or sunk beneath the surface, yield place to the grassy slope that serves as well for exclusion, while defining boundaries better. But yet,—those huge barracks that tower aloft, in every portion of our City; are they æsthetic! forbidding of aspect and unwholesome in fact! I find no fault with Queen Anne,—for she should not be held responsible for all that Architecture(?) attributes to her, in Worcester. Even she,—dullard that she was,—would have realized that a house is meant for a home; and that, in New England at least, its roof should be so contrived as to discharge, not retain, snow or flood.

And, with Thirty-Six (36) square miles, essentially vacant, unpastured even, what justification is there for the crowded tenement? Whence the excuse for the narrow, paved court? Shall Mammon always set God at defiance! Let the protest of Horticulture be instant and ever constant, in irreconcilable hostility to such barbarism!

The large estates are divided piecemeal; the old gardens give way to brick and mortar. Shall the last state be worse than the first? The city is pushed out into the country: that expansion implies pecuniary gain. But,—shall the man lose his own soul? You say not; and that Horticulture is a potent agency to prevent such debasement. We, who are passing from the stage, might perhaps be excused for indulging in a little mild gratulation. The past is secure. But you,—the corporation that is undying; you, who are to take up and carry along the work that falls from our nerveless hands; cannot boast so long as aught remains to be achieved.

"And the King of Israel answered and said, Tell *him*, Let not him that girdeth on *his harness*, boast himself as he that putteth it off."

You note the fact that this Society has carried on its benefi-

cent work for nearly half a century. With increasing resources; with the augmented facilities that you have, this day, authorized; why may not the little finger of our successors become thicker than our loins! There should be no collision; there need be no interference. But we should teach Botany, in all its relations, by precept and example, even as did our Founders, in the old Town Hall, long years before the birth of this Society. And, as Terræculturists, we should never forget that the worst use to which the earth can be degraded, is to make it a receptacle for talents buried in a napkin.

Once more re-assembled; under a roof renewed; and, in halls amplified; multiplied; and, no less,—adorned with a refinement of taste that commends its own praise; it may well be a theme for profitable meditation:—

How does it happen that in a small inland city of extreme New England, there should be a prosperous Horticultural Society possessed of a valuable estate, a choice library, abundant furniture, and therefore fully equipped for its special purpose of existence, to wit: "Advancing the Science and Encouraging and Improving the Practice of Horticulture"?

When and how were those properties early acquired, and subsequently assured? By economy, self-denial and thrift; or by a lavish bestowal of earnings and income, in the form of award which, as honest men, the Society has no right to confer in wanton disregard of obligations deliberately assumed! The very first entry upon the books of your earliest Treasurer,* to whose stringent fidelity and constant interest your debt can never be repaid, acknowledges the receipt of One Dollar ($1) from William Lincoln to constitute him a Member. That occurred October 13, A. D. 1840, at the very crown and height of a harvest-tide unique for its yield of cider ("hard,"—from some perversity of taste); and in the two days following, Sixty-Five (65) additional Members were secured. By untiring effort and hearty co-operation, aided by a contribution of choice flowers and fruits from zealous Horticulturists elsewhere (from Salem—notably), an Exhibition was held on those days, to which admittance

*Frederic William Paine.

could be had by the payment of twenty-five cents. When the Treasurer balanced his account for the year, he charged himself as follows:

To Receipts for Memberships,.....	$ 66 00
Admissions at Door,..... ..	207 98
	$273 98

The expenses,—the exhibitors putting in their contributions, labor, and time, from pure love of Horticulture, and getting nothing by way of premium or gratuity,—amounted for the entire year to the sum of One Hundred and Eighteen Dollars and Thirty-Nine Cents ($118.39).

It is no part of my purpose to anticipate the work of the Historian of the Society, nor to forestall the fruit of his labors. But I cannot refrain from emphasizing this point,—that this Society was founded by men who sought to promote the welfare of their fellows and not their personal advantage; and whose sacrificial offerings were laid upon the altar (call it Pagan if you will!) of Flora, Pomona, and Vertumnus;—never, of Mammon. For,—four (4) years from the date of legal incorporation a Member,* whose interest in the welfare of this Society, as in that of every other good cause, ended only with life, wrote:

"The Society's funds are also in so prosperous a condition that they can now award Premiums of Fruits and Flowers, as shall be of deserving excellence!"

Mark the precise statement of George Jaques,—a Horticulturist, if ever one merited the name, "of deserving excellence"! Not of perennial persistence and unblushing cheek. The old rounders had not yet learned to swing around the circle: Baldwin or Northern Spy, of whatsoever quality, drawing premiums of three or four dollars a dozen in Autumn, and then being put away carefully to await another chance for gratuity, during the ensuing Spring. Two years from that utterance, A. D. 1848, Mr. Paine credited himself with the payment, of Premiums and Gratuities, of Forty-Seven Dollars ($47.00). But he also put down to his debit the sum of Sixty-Seven $\frac{42}{100}$ Dollars ($67.42)

*The late George Jaques.

received from sales by auction of fruit left by exhibitors to be sold for the benefit of the Society. The goose does not honk so high, now.

"For who hath despised the day of small things!" exclaimed one of the minor prophets more than two thousand years ago. You will observe that the price of Membership, originally was but One Dollar; at which limit it was maintained for many years. One hundred cents were of account in those frugal days; when men reaped where they had sown in the sweat of their brows; not as yet inviting their souls as they loaf beneath some cooling shade or shelter of "protection." Exchange, or traffic, style it by whatsoever title, had not been stimulated to an extreme, unhealthy tension. Corporations were in their little beds; Railways had scarcely adjusted themselves in their cradles; Trusts were in the womb of Time—such conception, more hideous than that of Milton's Death, lying dormant and still: nor indeed were there even Stock-Boards, shares being neither long nor short. It was a rural population, essentially homogeneous, realizing their mutual inter-dependence, tolerating neither barrier nor *octroi;* as individuals profiting by unrestricted barter or sale among themselves; and ready to welcome the steam carriage because the stage-coach had fulfilled its usefulness. If you will look through the early reports, by the many accomplished gentlemen who made their thorough preparation a labor of love, you will discover that *Williams's Bon Chrétien* was imported without protest, and that no infant viticulture prayed to be shielded from competition with Black Hamburg or Muscat of Alexandria. For true, vital Horticulture is of the very essence of Christianity. The one sallies forth, under divine injunction to carry the gospel to every creature. The other ransacks the earth, if haply it may find flower or fruit in some newer brilliancy, or rarer perfection of development; nor revolts at their acquirement because, in the irrepressible conflict that dominates the ages, some moss-grown, vested interest must go to the wall.

It may well be questioned how long the young Society would have continued in existence, had it been nursed only upon enthusiasm and constrained to support itself upon revenue derived

from admission-fees! Certainly if jags were only to be surmounted by a devotion like that of Curtius; and progress attained but by a whole-souled surrender of private interest for common benefit; it may be regarded as not the least of our good fortunes that the carcass was not sufficient to attract the vultures, if any such there were among the men who voted—January 1, A. D. 1851, to cite the exact phrase of the record:

"That in consequence of the heavy expenditures to be incurred by building, no premiums shall be awarded the present year."

Happily in the crisis of our fortunes, a legacy of Three Thousand Dollars ($3,000.00) was bequeathed to the Society by Hon. Daniel Waldo, which fell in at the very nick of time when it could determine our future fate and aims. Thereafter, if discouragement had been felt, at any symptoms of public indifference or listlessness, no outward manifestation of it was allowed to become evident.

At the Annual Meeting of the Society, May 10, A. D. 1848, it was *voted:* to choose a Committee to confer with the Trustees of the Worcester Agricultural Society, and with such other associations as may be willing to co-operate, to ascertain if some plan cannot be devised for the erection of a building suitable for holding the Exhibitions of the respective Societies. Frederic Wm. Paine, Samuel H. Colton, and Edward W. Lincoln, were chosen: but the Committee seems to have made no report. Possibly no action was ever taken; the set conservatism of his colleagues quenching the ardor of the junior member. In view of what soon after occurred, who shall say that inertia was not then the wiser policy? But there was continual annoyance from the necessity of hiring Halls; and their proved unsuitableness in many respects; so that, at the Annual Meeting, January 2d, A. D. 1850, the Society

VOTED: that the Board of Trustees should "take into consideration the question of investing the whole, or part, of the funds of the Society, in Real Estate, with instructions to report thereon at a future meeting of the Society."

The Trustees met on the 27th February, 1850, and

VOTED: to "appoint Daniel W. Lincoln, William M. Bickford, and Stephen Salisbury, a Committee to take into consideration the expediency of purchasing Real Estate, with the whole, or a part, of the Society's funds."

Subsequently, on the 18th March, of the same year, the Trustees *voted*, unanimously, that

"It is expedient that the Society authorize the Trustees to invest the funds of the Association in Real Estate."

April 3, 1850, the Committee appointed February 27th, reported to a special meeting of the Society: and thereupon, no one dissenting, it was *Voted:* that the Society should purchase the Partridge Estate, and a part of the Wool-Store Estate (so-called), on Front Street, as recommended by the Committee of the Trustees.

Again and finally on the first day of January, A. D. 1851, the Society, in Annual Meeting, unanimously *Voted:* that it is expedient that the Society should erect a Hall upon their site, on Front Street, in this City.

"For if they do these things in a green tree, what shall be done in the dry?" was the pregnant query, aforetime. What position in the realm of Horticulture you have assumed, by virtue of independent ownership; what higher rank you might attain as public benefactors were your conceded rank and absolute resources put to their most effective use; are problems whereof the consideration is not presently imperative. Suffice it here to say, that the Society entered into possession of its own Hall, when completed; and advanced in a work, lying ready to its hand, of imparting instruction by that best and simplest of all methods, so good that its very simplicity usually prompts to its neglect; teaching from example! As the woods, fields, and swamps were scoured, in the early century, to supply subjects for analysis and tuition, in the old Town Hall; so the time-honored gardens and established orchards of the thriving town were induced to yield tribute,

when Baldwin* and Lincoln, Washburn and Earle, Conant and Thomas, arose from their seats at the feet of Gamaliel† to develop the eyes and minds of a still younger generation. For at that period of infantile weakness as it were, there was no money in it! None even of that despised silver, the ready target for sneers from Reckless who has wasted it; or Witless, who cannot get it; but which so many of us, regardless of political cant, would be very ready to accept as a precious metal still. The founders of this Society cherished but one aim and purpose,—Horticulture! in its true meaning and scope,—pure and simple. They earned, were frugal, saving, and self-denying; invested their savings wisely, and transmitted to us this valuable estate into the enjoyment of which you now again enter, after a season of prolonged expectancy, during which renovation has been complete and thorough. From foundation to coping; from sill to rafter; all has been tested. Old things have passed away, pretty much everything becoming new. If Faith is but the "substance of things hoped for, the evidence of things not seen," what limit shall be put to our belief in possible achievement who have all these things in actual possession; to whom so much of beauty and convenience is fully disclosed?

At your Annual Meeting, two years ago, as appears by the record, it was *Voted:* on motion of Edward W. Lincoln, that "the Finance Committee be, and they hereby are, authorized in their discretion to cause the rear wall to the first story of Horticultural Hall to be carried out so as to leave it flush with the northerly line of the adjoining building." *Also* "*Voted:* that the Finance Committee be further authorized to procure plans and estimates for such alterations of the upper stories of Horticultural Hall as shall provide for a banquet or supper room, adequate to entertain a large company, without impairing the beauty, symmetry, or light, of the Hall of Pomona."

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* *Dii majores canamus.* Christopher Columbus Baldwin, William Lincoln, Emory Washburn, John Milton Earle, Edwin Conant, and Benjamin Franklin Thomas; always students themselves, and tireless in the instruction of others.

† Dr. Oliver Fiske.

"Reporting the same, in their discretion, to a special meeting of the Society."

It were unprofitable to state why nothing came of this within the ensuing twelve months. Something might be charged, with justice, to inertia where zealous co-operation was expected; somewhat more to an apparent inability of architecture to understand that it was invited to remedy deficiences, not to supply a substitute for Horticulture. But the exigency became too imperative to be disregarded longer. By dint of earnest effort, it was found that no misconception existed which could not be cleared up; no difficulties that should be insuperable. So that, at a Special Meeting of the Society, on the 26th March, A. D. 1891, the Record recited that "Mr. Lincoln (E. W.) from the Finance Committee, submitted its Report upon proposed alterations of Horticultural Hall, together with a plan and estimates." That Report, in substance, was as follows:

"The main object to be accomplished by the alterations proposed, is the utilizing of the fourth (4) floor, and its conversion into a Banquet Hall; smoking, serving, and storage rooms; and a kitchen. To gain the height required, the east and west party walls and, in especial, the rear wall of the Society's building will have to be carried up from six (6) to twelve (12) feet. It is not proposed to increase the height of the present front and cornice. The fourth (4) floor and roof to be supported by trusses, of which the chord at the fourth (4) story ceiling, and the ceiling over the Hall of *Flora* will be carried by iron rods of proper size."

A statement of the methods of lighting the Banquet Room, whether by sky or transom lights follows.

Next comes the proposition "to build an elevator or lift, in N. E. corner to raise supplies from the open court to the kitchen, and also for the essential convenience of transferring seats from the main Hall to the store-room, and vice versa."

"On the third (3) floor, it is proposed to divide the present Hall of *Ceres* into a Drawing-Room or Parlor; a check or coat room; and a Toilet-Room for visitors, with wash bowls and

water closets. The partition between parlor and gallery of Hall to be fitted with glazed doors and transoms; thus supplying additional light, beauty, and ventilation, for the main Hall."

"It is intended to raise the gallery about ten inches (10″) to gain head room in the lobby, in the second story. The stairs from the street to the second (2) story will not be changed. A ticket-office is to be built in the partition between the lobby and main Hall and the doors leading to the Library, stairways, and main Hall made double."

"One of the greatest improvements, in the opinion of the Committee, contemplates cutting three (3) feet in width from the Library-room and arranging two (2) pair of Lugrin, or rolling, doors; so that either or both ends of the Library-room can be formed into Dressing-rooms, and used in connection with the Hall, gallery, and connecting stairways. By this plan the Library of the Society can be made more private, and the whole or any portion used with the other rooms. The effort has been to plan stairs, lobbies, and doors so that their arrangement would permit the leasing the Halls together, or separately; and, at the same time, retain them within easy control of the Janitor."

"The estimates from carpenters cover only the items shown in plan and specifications. If a new front of Trenton pressed brick is adopted, it is proposed to remove the old veneering of mastic, the exterior course of brick, and the wooden cornice, leaving the old windows, caps, and sills, and supplying a new cornice of brick and copper."

Appended to the Report was the subjoined series of votes of which the adoption was asked by the Committee:

"*Voted:* that the Society adopt the plan for alteration and improvement of Horticultural Hall, this day submitted by the Finance Committee, after the designs of Messrs. Fuller & Delano, and that said Committee be authorized and directed to proceed and cause said alterations and improvements to be made."

"*Voted:* that the Treasurer be authorized to borrow, upon the note of the Society, a sum not exceeding Fifteen Thousand

Dollars ($15,000) and to give in security therefor, if required, a mortgage upon the Real Property of the Society."

In the discussion that followed, it was stated by the *Chairman* of the Finance Committee that it was believed that the amount of the Loan, with the sum of money on hand, would prove sufficient to effect the improvements. And finally, on motion of Mr. Draper, it was *voted unanimously* to approve the plan of alterations, as submitted; and to authorize the proposed loan.

Upon one point, your Committee were especially determined. They meant to secure a Ladies-Parlor, if such a thing were in any way possible. Whether success has crowned their efforts rests with my fairer auditors to decide. The Committee hoped to provide a room pleasant enough to be an attraction of itself; and of such convenience that it would argue self-denial to stay away from it. Many of our female members, likely as not, have no friends whom they are willing to put to inconvenience upon the occasion of every visit to town. They are joint owners in this estate. Why should it not be so arranged that they may feel at home in it? Why should it not be fitted up nicely, if simply; so that its aspect shall suggest a cheerful welcome,—its snug arrangement a cosy place for repose during the heat and burden of the day? Our Hall is too little used by our Members, for resort and mutual intercourse. Perhaps there will be no improvement in this respect, for the future. But if not, shall it be said of your Committee that they were blind to the need and therefore failed to make due provision for its supply!

And now, when all is virtually done; now that you can look around and see of what you are in the quiet enjoyment, compared with that which, relatively, was a continual source of annoyance; who is Querulous, out of Carping by Faultfinder, that his neigh (?) should disturb your satisfaction? You were obliged to lease your Hall, as a whole, or in its few subdivisions; and year by year competition was continually growing sharper. Applicants were governed by considerations of relative convenience. And although a party might find itself well off, when it had once got comfortably seated in the excellent

restaurant that could be reached within fractions of a mile; it was certain as fate that the compulsion to walk those fractions, in ball-room dress and satin slippers, would never be credited to us among the elements of advantage. Dump a foot of snow, swiftly becoming slush, and who would not prefer the Hall that offers every facility under its own roof to that bare shelter from which you are absolutely compelled to go, in quest of ordinary comfort and actual supply! What we had not—would not: others were eager to furnish

You needed superior facilities for illumination, whether for the moment or throughout the long winter nights. The time has gone by for requiring the janitor to climb a ladder, in order to kindle each separate burner, or at the close of a night's siege,—to put them all out! For parties of pleasure, the light must be agreeable as well as ample. For our purposes the electric light did not commend itself. The light that shines upon fair women and brave men should add lustre to loveliness, not detract from it; imparting an intermittent flicker or a spectral gleam. Had your Committee been in doubt the action of the Mechanics Association would have decided their judgment. At worst, a few florets of Chrysanthemum may possibly be marred, if you accept the prejudice of those who chiefly serve this Society by abuse of it; but the faces of our girls will continue to outrival peaches and cream.

The space taken from the Library will not be missed, for its peculiar uses; and in lieu of it you have facilities that must be found of essential convenience upon all public occasions. The ability to supply Committee-Rooms, at the requirement of Conventions to which our Hall is so accessible, will be a most welcome improvement.

Heretofore,—every time that our main hall was wanted for a dance, it became necessary to hoist each set of chairs by sheer force, hand over hand, to the lumber-room above. The crockery required for exhibitions must be lugged each week, up and down stairs. Those troubles, at least, are remedied; and the elevator that obviates all such inconvenience and toil, equally affords a handy means of transporting viands to our Supper-

Room, and a much needed facility for lifting unwieldy pots of Chrysanthemum to their hall of exhibition. The brow may reserve its sweat for other occasions when it shall be inevitable upon labor.

The space in the rear of our building, formerly left to waste; or abandoned to the ignoble uses of a turn-table, during the last score of years; has been inclosed within our walls and converted to our exclusive enjoyment. The stores upon the ground floor will acquire a far better light, by day; and should benefit yet more by the artificial illumination of the court that is maintained by the City. We may ascend still higher towards heaven, if we choose; but our limits on the earth are reached. One acquisition would be desirable, should the opportunity offer; an opportunity once kindly presented, but carelessly, almost criminally, spurned. But we should never yield to extortion. The Corporation will outlive individuals. And it is true—is it not? "All things come to those who wait!"

A mild curiosity has been aroused, because of the Nomenclature adopted by the Committee for the different subdivisions of the renovated structure. So far as FLORA is concerned, there seemed to be no good reason why she should continue buried among the musty tomes of our Library. The gay and festive scenes of our dance-hall appear better suited to her frolicsome nature. There let her disport herself surrounded by Flowers in their season; and enlivened by merry strains of music during those bleaker months when youth and beauty must, perforce, seek enjoyment within doors. CERES has her appropriate place in the Ladies-Parlor. As chaperon she can maintain heedful watch over the giddy things below; knitting her brows in matronly reproof, whenever exuberance of spirits threaten to exceed the limits of discretion, and supply of worsted. Nor could your Committee perceive any sufficient excuse for longer concealment, by POMONA, of her marriage. Poor VERTUMNUS had been kept so in the back-ground; and snubbed as if a mere dependent of the household; that he was in dire peril of losing his identity if not his manhood. The nuptials had been duly solemnized, of a bright Arcadian Summer; and it became a

simple act of justice to both parties to make public acknowledgment of their mutual relations.

And there is NIRVANA! "unto the Jews a stumbling-block and unto the Greeks foolishness." But still who may duly measure the peace that passeth all understanding which shall befall the weary Horticulturist, whose Pears fall short an ounce, as he enters within those welcome gates and suffers his soul to invite itself under those seductive influences! Masters of the Grange succumb to the temptation; and mayhap the very Wardens and Vestry will find their strict Episcopacy yield to the insidious lure which laps them in a newer and theosophical Elysium. There are some;—not a few, if their name be not legion; to whom a whiff from the corn-cob of Democracy, or the higher-toned clay-pipe of Republicanism, is, at times, quite indispensable. Heretofore, it could be had, out of place and at great personal discomfort. But, when next the Society summons its Members to a social reunion, your Secretary feels sure that the President will not be obliged to clamber over rafter and truss in a vain search, throughout a cluttered garret, for the NIRVANA that is ever elusive.

In old times—remote almost as "the days when we went gypsying," it was customary of a Thursday evening during the Annual Autumnal Exhibition, for the Judges to make report upon the subjects committed to their observation and charge. It was a wise practice and, if only because of its obvious utility, one that should never have been suffered to lapse into nocuous desuetude. The casual notice that most of us can take, in the distraction and rush of Exhibitions, of the Flowers and Fruit placed upon our tables, carries with it little instruction. The constant watch and comparison from one exhibition to another; followed up for successive years by the expert Judges that it is our felicity to possess; should be written down for information and preserved for permanent record. The eye would no longer be offended by the careless intrusion of such paragraphs as that which, describing the recent "Shrewsbury Town Fair,"* gave expression to the following rash challenge of past

* *Evening Gazette*, Oct. 7.

Pomological history: "It was a revelation in Worcester County Horticulture, to see such mammoth Baldwins, Greenings, and Hubbardstons, as were shown." It would seem that an afternoon, or evening, as the Society might find most convenient, were well and worthily employed in listening to their ripe experience as told by those whom we selected to bestow our awards. The discipline would be valuable to the Judges themselves; compelling them to take note, upon the spot, of the impressions of the current hour; and by so much enabling them to frame a more vivid presentment of the salient features of successive displays in their several departments. The questioning and discussion that ensued would be easy and natural. Such meetings should be of value alike to both Members and Judges. If, as a possible result, they should tend to open the eyes of the average reporter for the press, enlarging his mind without swelling his head, mayhap; teaching him, and no less his employers, that, in the curriculum of Worcester University, a bare catalogue of awards is not even a skeleton statement of the service rendered to the practice and science of Horticulture by our especial docents; the exact report, the enlightened audience, and the lesson proffered without money or price, will not be wasted.

The question now presents itself:—What shall be the policy of the Society in the immediate future? We will assume as a matter of course, that the "Science of Horticulture is to be advanced; its practice encouraged and improved,"—hereafter as of yore. How? In what manner, and to what extent, shall this be done to the best advantage! Exhibitions have been held annually; monthly; of late, for a succession of years, weekly. Held without monetary bounty until the struggling Society had emerged from its difficulties; and thenceforth maintained, as increasing means permitted, under the stimulus of substantial awards. And here the newer and more perplexing doubt intrudes; nor will be dismissed with a contemptuous shrug, or sneer; is not the money-award like all stimulus or factitious incentive, in danger of becoming the end rather than a means! Could we hold an Exhibition, unless we offered a

valuable consideration by way of lure? Is there any such thing as a pure love of Horticulture, because of the intrinsic charm to be discerned in beauty, fragrance, or savor! Or are we simply tempted to earn so many dollars for a display of this or that standard fruit, which we never originated or set out; or of those more recent varieties, for scions of which we were importunate beggars, although they were for sale at the Nurseries at a nominal price.

For, or against Annual, Monthly, or Weekly, Exhibitions, the argument is ample whether in favor or dispraise. But mere frequency, it should be noted, is rather a theory than a condition. Often may be a good way; but just often enough is far better. If we appoint an Exhibition upon a fixed date, and hold it inflexibly, it may turn out well enough. But, if your Roses are yet in bud, your Strawberries not ripe,—what then? The grower upon a sunny exposure, with a sandy, warm subsoil,—how shall justice hold her scales in equipoise between Birch or Olean Streets; Hope Avenue and the declivity easterly of Bloomingdale? Horticultural Exhibitions will languish and die, where favoritism is manifest, or reasonably suspected. They can only thrive under rigid subjection to the laws of the Medes and Persians—which altereth not. In whatsoever we determine, the element of uncertainty will intrude itself to thrust aside our best laid plans. An Exhibition of Roses and Strawberries is appointed for the 24th or 25th of June: upon a computation of averages, long since found to be a most suitable date. But a cold Spring, immoderate rains, or a week of such suns as just parched our early October,—whereafter the clamor is loud and discordant: Anticipate! Postpone! And whichsoever course you elect, to the derangement of your Schedule, you will wish that you had chosen the other. As the necessities, or even exigencies of everybody cannot be accommodated, what remains but to ascertain and adhere to a definite fixed rule from which nothing shall cause the Society to deviate or flinch?

It is the opinion of your Secretary, based upon life-long experience, that an Exhibition of Roses, Strawberries, &c., somewhere about the last week of June, is as early as any Exhibition

can be held in this City, which shall be of actual benefit to Horticulture. Of course it is possible, weeks previous, to entice the culls from decaying or stale Apples; to obtain another last fond! look at Duchesse de Bordeaux; even to squander unmerited bounty upon the refuse and ruck of greenhouses. But the fruit was in its prime when your Exhibitions closed in Autumn; and your bounty was then fittingly bestowed. At the vernal equinox, the florist has already found his market; and could not afford, were he so inclined, to reserve his pinks or roses, upon the hazard of obtaining a few dollars in premiums. The florist and orchardist depend upon and seek a ready customer. It does not become this Society to rake after anybody, or to pride itself upon achieving a display of gleanings. I have sometimes thought, latterly, that our Members are getting to regard our Exhibitions as monotonous because of their weekly recurrence.

One thing appears to be proved. In September, the tendency towards a merger of our identity in the huge conglomeration, yclept New England Fair, seems irresistible. It might repay curiosity, were it worth the while, to analyze the causes of such tendency. Doubtless a gregarious disposition in men and women; an inclination to go with the crowd; has much to do with it. People have just returned from their vacations; and the mild dissipation offered at the Cattle-Show holds out a strong temptation before settling down to business. Then again the Judges are not so strict, perhaps; more license of imperfection or positive fault being accorded to specimens heaped in such a huge aggregation, ostensibly from the whole of New England, than when ten or a dozen competitors are enrolled under a standard that is satisfied with little short of absolute perfection.

In matters familiar to us we are apt to overlook the changes that are wrought by the mere lapse of time. Fifty years ago Horticulture, as it now approves itself, was a novelty to most men. In this community knowledge of it, and taste for it, were essentially restricted within a score of ardent votaries. To see what such could exhibit; and to go home and profit by what they saw; tempted men and women of the growing village to

put themselves to inconvenience;—even to pay for the sight! Now,—the dullest wayfarer along Main Street, for nine months of the year; latterly for quite a twelve-month; has but to keep his eyes open to behold what man hath garnered whence God wrought. At one stall of fruiterers, opposite Elm Street, the Orange and Banana jostle the Roxbury Russet; the Strawberry, Apricot, Peach and Grape challenge each other for precedence. Motion discounts space; invention contriving ways whereby the tropics are made to lay their fruits upon thresholds to which paths have been broken through ice and snow-drifts. By the time that we could hold an Exhibition, whether of Fruit or Flower, curiosity has been dulled, appetite sated. For Fruit is not unique in this position. Long before the vernal equinox permits us to look forward to milder airs and propitious skies, the windows of the Florist are brilliant with the vari-colored tints of Crocus, Hyacinth and Tulip. I make the positive assertion that this Society has never held an Exhibition of Spring-flowering bulbs; of Azalea Indica even; that, when its strength of membership, resources, and cultural skill are properly accounted, was not actually discreditable. In saying this, I do not forget how, at one time or another, and often as the result of personal solicitation, we have been rescued from imminent reproach by contributions, yielded at great inconvenience and risk, from Whitinsville or the State Lunatic Hospital. Nor is it so much matter for wonder. The Florists have sold their stock: spray and blossom going to decorate window and hearth-stone of the private dwelling; more likely, to adorn altar and chancel; or, as this Society has had bitter experience! the grave. For of the gardener, whether in or out of Eden, it is as true after the Fall as before he was ordained to his especial ministry, that—"they which minister about holy things, live of the things of the temple." Nor, of "oxen and fatlings" only; but of every bloodless thing that is sacrificed to Flora and Pomona. What they have not kept they cannot exhibit. What they did not reserve, for the especial purpose, is no longer theirs to display in this Hall.

And from countless gardens, or lawns by the wayside, may be

seen, in ever variant coloring, the glory of Spring Bulbs in all the diversity which the advance of Floriculture has developed. In this pleasant rivalry Public Parks are not behindhand; the people coming to insist upon the provision for themselves collectively of that which they are unwilling to do without as individuals. They take an outing in their leisure moments for air and exercise; and feast their eyes upon nascent foliage and budding bloom. Why should they confine themselves within four walls, where they are liable to be crowded for space; and are sure to be deprived of that enjoyment, actual, if perhaps subtile and inexplicable, that is drawn in with every inspiration of the open air; and which can only be experienced in fullest measure under the free canopy of heaven! Do we not attempt an almost hopeless rivalry? California and Florida surrender their treasures and even the remoter islands of the sea pay tribute to that vigilant commerce which at least on land seeks no bounty, ever anticipating and outstripping the wildest of human desires. What do our people care to inspect home-grown fruit, or flower, when a novel temptation is offered in the Banana; a strange fascination presents itself in the gorgeous, if scentless, Chrysanthemum! Long since was it determined that the average Yankee would sell the fruit that he grew and get sustenance from the pork or beef of Illinois and Texas. But,—when the market fails him? What then? Eat the fruit and find that it nourishes bone and sinew, invites no trichinæ, conduces to health and by so much at least, repels disease? Forbid it thrift! which relucts at parting with Apples or Pears at a price low because of a glut; yet continues to feed a perverted craving upon sirloin at thirty cents per pound. Why should Horticulture care whether there is a market for fruit, so long as it knows there is a stomach for it! What is it to Horticulture, if no one will buy its Roses and Pinks? Their beauty abides with us, does it not? And is not their fragrance a joy forever? Horticulture is one thing: trade in its products quite another.

Pardon a suggestion! Suppose, by way of variety, that you were to adopt some such policy as this: commence with an Exhibition of Roses, Strawberries, &c., about the 24th or 25th of

June! Follow this, during the middle of July, with a competition between the other small fruits, and of the more conspicuous flowers, including annuals and biennials, that will then be at their best. From the 18th to the 20th of August, experience has proved that you can safely count upon Antirrhinum, Aster, Gladiolus, and Perennial Phlox; and the earlier Peaches, Apples and Pears need not be left out of the reckoning. September can be omitted, if you choose, and such would seem to be your choice, surrendering it to the combination of Societies that, not content to run a Cattle-Fair, elect also to throw out a drag-net for everything else.

October would then remain for your especial Harvest-Home; when the choicest of all the more approved varieties of Fruit have matured in size and flavor, and have become fit to be shown before a Society that knows what such fruit ought to be and has no wish to see it in any other condition.

Of November, succeeding your Annual Meeting, and the first month of our Horticultural year, has it not the Chrysanthemum, solitary and unapproachable!

Should you conclude it to be a wiser policy, or even one that may be expedient if merely for the sake of variety, to consolidate your Weekly into Monthly Exhibitions; protracted into the evenings, if found advisable; commencing, as just suggested, with a display of Roses, Strawberries, &c., it may be prudent to defer the framing of a Schedule until somewhere toward the close of the coming Winter. By that time you will be better informed of the means at your disposal; and can determine what proportion may be applicable to the advancement and promotion of Horticulture, after proper allowance has been made for the gradual reduction and seasonable extinguishment of our just liabilities.

All which is Respectfully Submitted

[by]

EDWARD WINSLOW LINCOLN,

Secretary.

Horticultural Hall,
Worcester, Massachusetts,
November 4th, A. D. 1891.

PREFACE.

At the Annual Meeting of the Society, November 5th, A. D. 1890, it was voted—that *Messrs.* O. B. Hadwen,
James Draper, and
Charles E. Parker,
be a Committee to consider the matter of providing Essays and starting Discussions upon Horticultural topics, on successive Thursdays, throughout the winter, with power to act.

This publication results directly from the action of that Committee. In most cases, it has been the good fortune of the Society to secure a revised report from the Essayists. Where that was impossible, resort to the columns of the contemporary press became imperative. In the better time coming, it is to be hoped that the relative consequence of matters under current observation will be more accurately weighed; and that success in growing flowers or fruit will command as close study and careful notice as endurance in the prize-ring, or sinuosity in sliding to base.

As it happens, the contributions of our own members to the lore of the various topics is almost entirely lost. It is hoped that no injustice will be found done to the guests of the Society, where their remarks are restricted to an abstract; and that the Society will be held to no responsibility for opinions that, howsoever correct, must be regarded simply as the utterance of their authors.

For the Committee on Publication.

Edward Winslow Lincoln.

Worcester, Mass., A. D. 1891.

WORCESTER COUNTY
HORTICULTURAL SOCIETY.

8th January, A.D. 1891.

ADDRESS

BY

HON. HENRY L. PARKER, PRESIDENT.

Subject:—The Influence and Benefits of Horticultural Societies.

THE year 1891 is marked by two notable events in the history of this Society—the closing of the first half-century of its existence, and the extinction of its debt.

There is a certain worthy body of Christian worshippers, who, on the annual recurrence of New Year's eve, take that occasion to review the misdeeds and short-comings of the past, and to strengthen themselves for a renewed struggle with "the world, the flesh and the devil." In imitation of them, might not this secular body, devotees of Ceres, Flora and Pomona, with some advantage make this coming year a watch-night for a review of former work, and a careful consideration of the question, whether the methods of fifty years have truly advanced the science of Horticulture and accomplished thus far the objects of the Society's foundation.

Our veteran Secretary, like a sentry upon the wall, has sounded from time to time the note of warning, and the hortatory strain of his last annual report gives ample proof that he has not slept at his post. If intended as a whip and spur to greater vigilance and greater effort, it cannot be other than well

advised, for if "eternal vigilance is the price of liberty," it is no less the price which any institution must pay, if it would thrive and grow and accomplish the ends of its existence.

We may with reason and propriety confess that "we have done many things that we ought not to have done and have left undone many things that we ought to have done." And yet it does not seem in looking over our achievements that having made this our general confession, we need to occupy for a long time the mourner's seat, or prolong the wail of self-deprecation.

If through our intervention new and improved vegetables have been brought to the attention of the market gardener; if our weekly displays of fruit and the competition excited thereby has raised the standard of fruit culture—has stimulated the grower to aim at perfection in appearance and flavor—has educated the general public to better discrimination and increased consumption—has introduced new choice varieties and perpetuated those which have been proved and not found wanting; if our floral exhibitions, our periodicals and the rare volumes on our library shelves have so quickened an æsthetic taste that our lawns and grounds, both public and private, have taken on an added beauty; if garden and conservatory have been enriched with rare exotics and plants from every clime; if each succeeding year has witnessed an additional interest in the science and art of Horticulture on the part of both our own members and the general public; if this Society has accomplished these results it may well claim that it has shown a "*raison d'etre.*" And that it has accomplished these results there is no room for doubt. I make the assertion, without fear of contradiction, that the two societies, the Massachusetts and the Worcester County, have accomplished more for fruit culture and market gardening in Massachusetts than all other agencies combined. That it has accomplished more for Floriculture goes without saying.

The possibilities of Horticultural science in this direction may be best illustrated in the marked—the almost miraculous—improvements in those three typical plants, the orchid, the rose and the chrysanthemum.

The culture of the orchid with its curious mimicry of organic life—of the bee, the butterfly, the dove, the swan, beetles, flies,

the lady's slipper, and of so many other forms of animate and inanimate nature—with its rich and varied colors, its delicious perfumes, has grown by such leaps and bounds, that its distinct varieties now comprise according to different authorities from 3,000 to 6,000. Of the rose; out of about one hundred botanical species collected from every known habitable portion of the earth's surface, Dr. Lindley has made eleven distinct types or tribes to which all belong. From this material, horticultural art has been able to increase the list of varieties to an almost limitless extent. Some of the recent new varieties surpass in elegance not only any production of a generation ago, but anything that existed in the wildest dreams of the amateur.

But the flower which of all others has made the most marvellous development, and stands perhaps highest to-day in popular favor, is the chrysanthemum. Although its origin dates back, or perhaps it would be more correct to say its existence has been known several hundred years, the centenary of its introduction into England was celebrated only a year ago. Most of the Japanese varieties were introduced into England within twenty-five years, and into this country still later.

It can be recalled early in the history of this Society as an odorless, white or purple flower, imperfect in shape, insignificant in size. At our last November exhibition it had culminated in blooms which rival the rose in beauty and to some of which science has already lent a perfumed breath. In size, the blooms of certain varieties have reached the almost incredible measurement of twelve inches in diameter.

Some of the most unique varieties have been obtained from the Canary Islands, Madeira, Barbary, China and Japan. In those features which distinguish one tribe or species from another there is no flower perhaps except the orchid more strongly marked; and these tribes or species take their name from these distinctive features, as, for example, the Incurved, the Ranunculus flowered, the Recurved or Reflex-flowered, the Anemone or quilled, the Aster-flowered, the Pompone, the small reflexed Chusan, the Daisy-flowered, the quill or Pin-feathered Japanese and the large-flowered Japanese. Like the rose, also, the varieties produced from these species are almost innumerable. At a

recent exhibition in France 600 distinct varieties were exhibited by a single house; and there grew in 1889 in the Chiswick gardens 800 distinct varieties.

But to fully appreciate what this and kindred societies have accomplished for the objects of their foundation we need to look at the beginnings of Horticulture, or rather at the state of horticultural science when these societies began their work. At the beginning of the present century horticultural science was in its infancy. The Royal Horticultural Society of London was the first society of any note in Europe or America to collect and classify plants under the Linnæan system. Its establishment dates back to 1804 and its incorporation to 1809.

Its first active president, Thomas Andrew Knight, F. R. S., in his introductory remarks relative to the objects of the Association, in speaking of the primeval state of those vegetables which now occupy the attention of the gardener and agriculturist, says:

"We possess no sources from which sufficient information can be derived to direct us in our enquiries as to how to trace out the various changes which art or accident has in successive generations produced in each, and are still ignorant of the native country and existence in a wild state of some of the most important of our plants.

"We know that improved flowers and fruits are the necessary produce of improved culture, yet few experiments have been made the object of which has been new productions of this sort; and almost every ameliorated variety of fruit appears to have been the offspring of accident or of culture applied to other purposes. Societies for the improvement of domestic animals and of agriculture in all its branches have been established with success. Horticulture alone appears to have been neglected and left to the common gardener, who generally pursues the dull routine of his predecessor."

He goes on to speak of the mission of the Society, to promote experiments for the production of new and improved varieties of each species of plant and fruit, as well as the improved culture of the known varieties. The Society proceeded to act on these suggestions, and in 1817 it had corresponding members in almost every quarter of the globe. Through the assistance of the East India Company the Society sent its agents to collect plants from Bengal and China.

In 1819 the formation was begun of a collection of models in wax of the fruits grown in the gardens of Great Britain.

In 1820 the Society began the construction of an experimental garden, to become, as expressed in the language of its foundation, "a national school for the propagation of horticultural knowledge and a standard of reference for the authenticity of every species of garden produce." This garden was located at Chiswick, and consisted of a tract of land of thirty-three acres taken under a lease renewable forever at the will of the Society.

In 1822 two agents for the collection of plants were sent out under the auspices of the Society, one of them to the Western coast of South America and the West India Islands, the other to the Eastern coast of Africa, to Lisbon, Madeira, Brazil, and the Cape of Good Hope.

In 1823 a second mission for the collection of plants was organized, and Mr. John Dampier Parks was sent to China for that purpose. In the Spring of the same year of 1823 Mr. David Douglass was taken into the Society's service with the intention of sending him to the coast of Chili, but the disturbed condition of that country at the time made that impossible as an objective point, and he was sent to the United States instead. He selected from the nurseries of New York and Philadelphia such fruit trees as seemed desirable, and made a botanical excursion through the United States into Canada. The Council says of this expedition:

"This mission was executed by Mr. Douglass with a success beyond expectation; he obtained many plants which were much wanted, and greatly increased our collection of fruit trees by the acquisition of several sorts known to us only by name. It would be unjust here to omit to mention the uniform kindness and attention with which he was received in every part of the United States that he visited. It is most gratifying to have to add that the presents of cultivated plants to the Society embraced nearly everything which it was desirous to obtain, and that the liberality with which they were given was only equalled by the hospitality with which the collector was received. Mr. Douglass was sent in the following year on a similar expedition to the mouth of the Columbia river.

"In the same year, 1824, Mr. James McRae was sent on a like errand to the Sandwich Islands. The Society meanwhile was

not content with mere acquisition. It exerted itself to transmit to various places abroad those seeds and plants known to be wanting to the comfort of its respective inhabitants. These efforts of the Society were appreciated and met with a corresponding return. The East India Co. sent valuable contributions from their gardens and possessions. The Hudson Bay Co. exerted itself to procure and send to the Society anything that could prove useful or interesting; and from individual correspondents from all parts of Europe as well as more remote countries articles of great value and variety were being continually received."

But the Society did not rest content with the mere collection of seeds, plants and trees, and their classification under their botanical names. It began their culture and careful study in their gardens at Chiswick. And in 1824, two years after the grounds were prepared, the Society had at Chiswick the most complete collection of fruit trees and of hardy trees or shrubs ever made, up to that date, in England or any other country. Then followed the construction of hot-houses, green-houses, pineries, melon pits, forcing beds, tanks for aquatic plants, in short, every conceivable structure and appliance necessary or needful for the protection and culture of exotics and the experimental work which followed on flower, fruit and vegetable.

The results of the experimental work of the garden were embodied in a series of papers read before the Society and published in its transactions. During the years 1824, 1825 and 1826, Dr. Lindley, the assistant secretary of the garden, made reports upon 173 new and rare plants which had flowered in the garden. Reports were also made by other members upon experiments and observations.

Nor was the literary work of the Society confined to reports upon the results of work at Chiswick. Papers were prepared and read by men of the highest scientific attainments, professors, Fellows of the Royal Society, Fellows of the Linnæan Society, as well as Fellows of the Horticultural Society itself. During a period of from six to eight years, from 1822 to 1828 or 1830, an average of about seventy per year of such papers were read and published in the transactions of the Society.

These were some of the topics discussed :—

On the accidental intermixture of character in certain fruits.

On the state of Chinese Horticulture and Agriculture.

On the supposed influence of pollen in cross-breeding, upon the color of the seed-coats of plants and the qualities of their fruits.

On the culture of new hybrid passifloræ.

On the culture of the African gladioli.

On the Neapolitan violet.

Many of the papers were of an intensely practical nature, such as the forcing of asparagus, the forcing of garden rhubarb, the best methods of constructing melon pits or strawberry beds, and the culture of various garden vegetables.

All this work the Royal Horticultural Society had accomplished when the Massachusetts and our own Society had their birth. The Royal Horticultural was the pioneer. It led the way. Under the auspices and prestige of royalty, with the contributions of its noble patrons and its army of wealthy members it was able from its very beginning to expend in one line of investigation, or on a single expedition, more perhaps than both our State and County Society combined could expend for the same time for all purposes. It has been able to send its agents to every corner of the earth and to collect and classify the plants, fruits and vegetables of all nations, and has made known and disseminated those worthy of culture, whether for pleasure or profit.

On the profit side the result has been a great impetus to fruit culture and especially small-fruit culture in England. Land there which formerly could not be made to pay with the ordinary crop cultivation, when turned to small-fruit culture pays for the value of the land in a short time, so that the tenant becomes the owner. And the consumption of fruits has increased to more than double within the past twenty years.

The tomato, occupying that half-way place between fruit and vegetable and which half a century ago was hardly known as edible, has now become almost as necessary an adjunct of culinary processes as the potato, and in the season of 1885, no less than 80,400,000 cans of this esculent were grown in Cornwall, Jersey and Guernsey.

Hygienic progress, increased longevity, the diminution of lep-

rosy, scrofula and kindred diseases (although sanitary science has done much), is due to a very large extent to the increased consumption of fruit and the various kinds of vegetable food.

On the æsthetic side it has ministered to the spiritual needs of man. It has gladdened the face of nature. It has adorned and brightened many a humble home. It has poured into the lap of the temperate zone the glowing colors of the tropics and enriched the English park with arborescent beauty. It has made the English landscape a picture on which the eyes of the tourist delight to dwell. A picture which becomes forever afterwards a pleasant memory.

I have attempted to sketch thus briefly the work of the London Horticultural Society, not only as the most striking illustration of the influence and public benefits of such societies, but as leading the way and laying the foundation of the societies which have followed. What it has accomplished has been done not for the benefit of England alone but for all other nations. Our own Society and the Massachusetts have received the benefit of its work, and we have followed its lead though not with equal steps. We have done as best we could with our limited membership and the limited means at our disposal. We have not been able to fit out botanical expeditions or to send collectors to foreign lands. Nor have we found it necessary. This work was accomplished for us by the Royal Society. And many other lines of investigation pursued by the Royal Society have been anticipated by other agencies.

At our agricultural colleges chairs have been established in entomology, meteorology, and botany and at both the Agricultural College and Experiment Station, special attention is given to the study of fungi and to the various diseases incident to plant life. The Agricultural College and the Agricultural Experiment Station with the State and National treasuries behind them have vastly greater facilities for these lines of work than any we could ever hope to attain. We have thus been compelled by the force of circumstances to move in a narrower circle. But within that circle we have accomplished much. Our collection of books forms a library of Horticultural science which, outside of that of the Massachusetts, cannot be duplicated within the limits of this continent.

We have been represented at Horticultural conventions and at those of a kindred nature in other States. We have maintained from time to time courses of lectures from scientists of the highest character, as well as discussions among our members. And each annual report of our Secretary has been a valuable contribution to horticultural knowledge.

Our exhibitions began, and for a long time were confined to a single annual one. They then began to be held at more frequent intervals until they merged at last into weekly displays maintained through all but the winter months. How successful these weekly displays have become, and with what ever-increasing interest they have been attended you well know. We may say of our work what is said upon the tomb of Sir Christopher Wren, the architect of St. Paul's, "Si monumentum requiris circumspice!" if you seek a monument look around you.

And now having reached that point where the last instalment of the Society's debt has been liquidated, and with an increased annual revenue, we are confronted with the problem, what shall be done with our surplus funds? What new departure, if any, shall be made. I must confess that, while I can see no reason to abandon the old methods, with such modifications as changed conditions may make advisable, there is no new field of enterprise to my mind more promising than an experimental garden after the Chiswick plan.

This Society is incorporated for the promotion of Horticultural science; and what is science but exact knowledge, and what is horticultural science but exact knowledge of the structure, growth and life of plants. And how may this exact knowledge be obtained? Not solely from books or from the analysis of the chemist or from the observations of the meteorologist or the scientist, but as well also from the careful study and investigation of the practical gardener. It is not the scientist pure and simple, who has originated new varieties in Horticulture. It is not the scientist, surely, who has enriched pomological nomenclature with pears like Earle's Bergamot, Clapp's Favorite, and Dana's Hovey, with grapes like the Concord and Moore's Early. These were all active and enthusiastic members of the Massachusetts and Worcester County Societies without any pretension to

any special scientific attainments, and who attained results by careful, patient study and experiment as practical growers. I do not mean by this, that such experimental work would by any means be outside the scope of the professional scientist. But the work of the professional scientist has been for the most part confined to the laboratory.

The State Board of Health of Massachusetts, with an annual appropriation of from $15,000 to $25,000 for the purpose of devising some satisfactory system of sewage disposal, have for years persisted in the idea, long ago exploded in Europe, that downward intermittent filtration was the only efficient system; and almost their entire appropriation from year to year has been expended in experimentation in this direction. And almost entirely by simply laboratory experiments. They are now compelled to admit that the *practical* solution of this great problem by our efficient city engineer has demonstrated that, so far as Worcester at least is concerned, they were mistaken, and that chemical precipitation has settled for us this troublesome question.

In this plan, therefore, while the work of the professional scientist would be not only welcome but essential, for the science of Horticulture includes almost the entire range of sciences, we should have also the principles of science practically applied. Phytology or vegetable physiology furnishes still a wide field for investigation. Much has been done in the line of hybridization and cross fertilization, but the possibilities in this direction, judging from what has been already accomplished, are almost infinite.

It would seem that the suburbs of Worcester should afford some tract of land of easy access, of the right exposure, and of other conditions suitable for such an experimental garden. Of course such an enterprise if entered upon should be attended with great deliberation, and years might elapse before it could be fully perfected, before the proper site could be selected, the ground prepared, the proper buildings and appliances constructed and the work in successful operation.

But these are simply crude suggestions. The plan may not meet the approval of your good judgment. You may pronounce it Utopian and chimerical. I offer the suggestions for what they are worth, in no pride of opinion and with the best good of the

Society at heart. But whatever may be the course determined upon, let us hope that the next fifty years may witness in the history of this Society the same enthusiasm, the same unity of purpose, the same good financial judgment, the same uninterrupted growth and prosperity which has marked the first half-century of its existence.

If a trust, in the nature of an educational duty, was imposed upon the founders of this Society in procuring its incorporation, and if we, its present officers and members, in undertaking the administration of its affairs have assumed that trust, may we not say without arrogance that we have not abused it, that we have made of it an institution of public benefit, that we have educated not only our own members but the outside world as well, and accomplished a work for which we shall receive the blessing of coming generations.

15th January, A. D. 1891.

ESSAY

BY

STILLMAN H. RECORD, A.M., OF WORCESTER.

Theme:—The Culture of Lettuce and Cucumbers under Glass.

PERHAPS there is no garden vegetable grown for our markets that requires less skill when raised in open culture than lettuce, for it will grow in almost any good garden soil, and, in open air, is seldom injured by disease. But when grown under glass by artificial heat, I know of no vegetable that requires more skill, or a longer apprenticeship to acquire that skill necessary for successful culture, than does the lettuce plant. I know of successful market gardeners after forty-five years of practical experience in its culture, declare their belief that a crop of good lettuce forced under glass is simply the result of "good luck," because while growing three and four crops per year they say they can get only about *one good* crop in the course of *four years*. Another lettuce grower, though younger in years, yet the largest lettuce grower in New England and probably the largest in America, says, that the same treatment never produces the same result twice in succession. Explanation of these varying and seemingly hap-hazard results, is probably found in the fact, that the culture of plants under glass requires nearly all the conditions for successful growth to be produced artificially, and these conditions, particularly in the case of the lettuce plant, are so numerous, and so obscure, that finite man, even after years of careful observation and practice is not quite equal to the task of bringing about uniform results, though he may attain partial and varying success.

The culture of lettuce under glass is really one of the abstruse sciences, and should be classed among the "learned professions," as much as Law or Medicine or Divinity. If the later cyclopædias do not so class it the bookmakers have failed in their duty. They have not thoroughly canvassed all the liberal arts and sciences, and properly arranged the subjects respecting which they profess to treat.

The lawyer in his study of jurisprudence, and the divine in his search of the Scriptures, have the statutes inexplicably stated and plainly printed language, which can usually be understood without great difficulty. But the horticulturist, who must study and conform to the laws that govern the growth of plant life, does not find those laws written in legible characters on a plain, white surface. His is the more recondite and profound subject. The laws which he seeks to understand and the conditions of healthful plant growth, which he is himself required now to produce artificially, are as obscure as the occult properties of matter itself. Those who have had the longest experience, acquired the greatest skill, and achieved the largest measure of success in producing artificially the necessary conditions for the growth of this difficult plant, are the most frank in confessing their deficiencies. After all they have learned they will assure you that there is yet left ample field for years of further study and careful observation, by the most scientific men in charge of our agricultural experiment stations, before all the conditions of successful growth are perfectly understood.

I confess to a feeling of much more modesty in attempting to give instruction on the cultivation of lettuce by artificial heat than possibly I might have felt immediately after attaining my first partial success. But seventeen years of practical experience, with the prerogative of standing all the losses of many expensive failures, has taught me that there was far more to learn to master the business than I had conceived, even after several previous years of reading and frequent and careful observation of the methods of our largest and most successful lettuce growers around the cities of Providence, Boston and New York. If I could secure correct answers to all the questions which I would like to propound on difficult points to be met with in the

cultivation of lettuce, I am quite sure that my catalogue of questions would outnumber the answers which I should dare to give as the correct ones to questions that might be proposed to me. Nevertheless, I have, I trust, learned some things, at least, as to what *ought not* to be done in lettuce growing.

And as one of the first and most essential things that a novice in any trade or profession needs to know is what he ought *not* do, such negative instruction may be of value to those who have not already learned it in the costly school of experience. My advice to one proposing to begin this business and to follow it as a means of livelihood would be: (1.) *Not to undertake* it at his own expense until he first serves a thorough apprenticeship of several years, with the best lettuce grower that he can find. Even if he should have to give his services, and pay his own board, and pay tuition for several years, it will be cheaper than to undertake it on his own account, particularly on a scale sufficient for a living business, provided he understood the intricacies of the trade himself. Such a course will cost him more money than it need to for a full collegiate and university course of literary and scientific instruction.

(2.) Do not think you can start into the business on a business scale and avoid such losses by hiring a professional expert to manage the business for you, and at the same time teach you the intricacies of the trade. Competent men cannot be hired for that business, at least, not by one who is himself a novice. Having hired the most competent man that you can secure, in all the States, and spread out your property for him to manage, the first you will realize as a tangible result of your enterprise will be a loss of $500 or $1,000 at a stroke by reason of his blunders, or rather his ignorance.

A few years ago, a man having a lucrative business purchased an adjoining vegetable farm, with a greenhouse and four or five hundred hot-bed sashes, and proposed to make a little money out of lettuce growing, by hiring an expert market gardener to operate his glass on shares, while he himself continued his former business. He asked me to refer him to the right kind of a man for such an enterprise, if I could. I asked him if he himself had a practical knowledge of growing lettuce under glass. He said

he had not. But he thought if he could secure a man who had, the man, "while making a dollar for himself, might also make a dollar for him." I told him I knew of no such man to be hired. And, besides, that I had never in all my life heard of but two such men that were hired to manage such a business, and in both these cases the owners gave their personal and constant oversight to every detail of work. I told him that while not able, under the circumstances, to help him make any money, I was confident that I could *save* him at least $5,000 if he would but adhere to the advice which I could give him in just *five* words—"*Don't do any such thing.*" Of course I knew he would not follow it, for it would seem to him to be prompted by personal interest.

He tried his experiment several years with two or more, I think, different men. I occasionally looked in upon him to learn what success attended the enterprise. On my last visit to his place, I met several teams loaded with hot-bed sash which he had wisely leased or sold to a market gardener who understood his business. The green-house was desolate and cold, and, besides, had collapsed under a heavy snowdrift, and the busy hum of market garden work no longer enlivened the scene. He frankly admitted that my advice given him was sound, but boasted of wisdom enough to quit the business before he had sunken quite as large a sum of money as I had predicted.

The Preparation of the Soil.

The preparation of the soil and the manipulations of the plants are very simple processes to one used to ordinary garden work. The soil for the seed bed should be mixed with about one-third its bulk of well rotted stable manure, and made as fine and mellow as thorough spading and pulverizing can make it, to the depth of about one foot.

For the first winter crop the seed should be sown in September, either in open ground or in an uncovered frame. The seed should be covered about one-fourth inch with very fine soil, pressed down gently with the back of a shovel. The best way of covering the seed is by sifting the soil through a fine coal sieve as evenly as possible. The seed, almost invariably used for forcing under glass, is the white seeded Tennis-Ball, sometimes

called "Boston Market." Too great care to get the very best of seed cannot be used.

Pricking Out the Plants.

When the young plants have attained sufficient size to handle easily—say when the leaves are an inch or so across—they should be transplanted, or "pricked out" as it is termed, into another frame of equally rich and equally finely pulverized soil, three inches apart each way. This frame should be covered with glass and, during the warmest part of sunny days, the ends of alternate sash should be raised three or four inches to give air.

If sufficiently late in the season for the ground to freeze quite hard nights and, particularly, if the ground remains frozen during the day outside the frame, the frame should have bottom heat of fermenting stable manure, showing a temperature of 120 or more degrees, placed beneath six inches of the mellow, rich soil into which the lettuce plants are to be set. This bottom heat should be about 8 inches deep, evenly spread and gently pressed down, and when covered the soil should come within two inches of the glass on the south side of the bed. The north side of the frame should be six inches higher than the south side.

While this heat is fresh and active, say for the first two or three weeks and particularly in mild weather, great care is essential to give it plenty of air during the day. At first it is sometimes needful to have some ventilation during the night, by placing a lath flatwise beneath a sash once in twenty or thirty feet. When the weather is cold enough to freeze hard nights the sash are to be covered nights with straw mats, and these mats also covered with broad shutters, later in the season, and particularly when snow comes. These shutters and mats by day are leaned back against the shelter fence, made of tight boards six and a half or seven feet high, two and a half feet north of the frame.

Planting 6 x 6 Inches.

When these plants are large enough to entirely cover the ground, they are again transplanted into another frame filled with fresh heat, a distance of 6 x 6 or 7 x 7 inches, which will give a less number but larger heads.

Great caution should be used at the first transplanting from the seed bed not to use plants that are infested at all with the green aphis or lettuce louse. If by any means even one louse is introduced into your frames, you have a hard enemy to fight, for they multiply so fast that if they do not ruin the first crop, they are almost sure to destroy the second winter crop in those frames. The only effectual way to destroy them, when they get on the plants, is by fumigating with tobacco smoke while the plants are comparatively small, before the foliage is dense enough to prevent the smoke from penetrating to every hiding place. The fumigation of lettuce in the hot-bed frame is much more difficult than it is when growing in the green-house. Indeed, fumigating the frames is seldom attempted. Weekly or semi-weekly fumigation is needed in the green-house when the plants are young.

But the real difficulty in lettuce growing under glass begins when the lettuce is planted upon bottom heat, or in the green-house, after the weather is cold enough to close your house tight and start your fires. Here the necessary heat, moisture, and needed change of air must be produced artificially, and it requires almost infinite skill to understand, and to regulate all these, and adapt them to the varying light and change of outside temperature. The temperature must be lowered just as soon as the sun ceases to shine, even during daylight, or the plants will soon become unhealthy.

As the plants begin to head in and, especially, just before they have attained the proper size and solidity for market, the black rot in the head, mildew and various other unnamed and unnamable diseases, are liable to manifest themselves, that greatly injure and sometimes utterly destroy the crop.

Night Temperature.

It used to be thought that the night temperature should be 45° and from that up to 50°. But experience has convinced many, and our experiment station has verified this opinion that a lower night temperature is necessary to avoid mildew. 40° or less is now regarded as high enough for healthy growth, especially after a cloudy day. The day temperature in clear weather should be allowed to go up to 60° or 70°. If the weather is cloudy the day temperature should not go above 55°.

Ventilation.

It used to be thought that considerable outside air should be admitted every clear day, no matter how cold the outside temperature. This may be necessary for lettuce in frames on fresh and strong bottom heat. But in the lettuce house it is found better to admit but little air unless the outside temperature is as high as 40°. In mild days give plenty of air.

Watering.

Lettuce requires a great quantity of water, especially when heading up, and particularly just before it is ready for market. But too much moisture is sure to induce mildew during the short days of early winter when but little ventilation can be given. To apply the water at such time requires nothing less than an expert, or the constant presence and oversight of an expert. I never knew a raw hand to put on quite *half* water enough the first time even after the most careful directions. Nor would he get on sufficient even the second time though sent immediately over the work. But having been twice shown at how little depth into the soil all the water he has put on, penetrates, in his third attempt he is almost sure to spoil the job by getting on altogether too much.

The only time that it is safe to break in a raw hand at watering lettuce is when the days are sufficiently long and mild to allow a good deal of ventilation. Then place the hose in his hand and a watch in his pocket, and tell him precisely how many minutes to let the water run upon a given number of sash, or a section (space between parts) in your greenhouse.

When to Water.

It used to be thought that the best time to water lettuce was in the afternoon, soon after the greatest heat of the sun had passed, say after 2 o'clock. But it is now found that the best time to apply the water is in the forenoon of a sunny day, as the leaves of the plants have more time to dry off, and are less liable to mildew from a possible too high night temperature.

Mildew.

As mildew is the greatest obstacle to the growth of good lettuce and occasions the greatest loss to market gardeners, it becomes the grower to study most carefully all the conditions liable to produce it, for here, if anywhere, the old adage proves true, that "*an ounce of prevention is worth a pound of cure.*"

Our Hatch Experiment Station at Amherst has already rendered much aid in determining and publishing *some* of the conditions by which this disease may be brought on. But I do not think that they have yet determined all those conditions. Besides, there are several other diseases that appear to be distinct from mildew, which often accompany it—sometimes preceding, and sometimes following it—that are quite as destructive as the genuine mildew. These diseases, if they really are distinct from mildew, do not seem to be described in the bulletins issued by the Experiment Station.

The conditions which produce mildew, as given by the Experiment Station Bulletin, are five, viz.:

(1.) Too high temperature at night, say 45° to 50°.

(2.) Want of proper plant food in the soil.

(3.) Too much moisture in the soil.

(4.) Sudden and extreme changes in the temperature when the plants have been growing rapidly and are soft and tender.

(5.) The same temperature both day and night.

All these conditions, I think, are correct as far as they go. But there is one other condition not mentioned in their bulletins that I am quite sure produces a disease that often accompanies the mildew, and may be a result of mildew, unless it is a distinct disease. The disease is black rot in the head of the lettuce just before it is ready for market, that resembles what is called "scorching" of the head, but is, I think, different from it. Too great *dryness* in the soil, when the lettuce is nearly headed, will cause this phase of the disease.

The rotting off of the trunk of the lettuce just beneath the head, when almost mature—and sometimes so suddenly as to leave the head loose before it has wilted—is another disease that sometimes accompanies the mildew, and may be a result of it, or it may be distinct disease. Too great moisture, occasioned by

dripping around the plant from the glass, seems to be one of the causes of this rotting; also too cold a stream of air dropping suddenly upon the plants seems to be another condition. But after several cloudy days in succession, when lettuce is nearly headed up, this disease prevails most destructively. There is still another cause of many of these diseases to which lettuce is subject, which I have never seen mentioned in any book, nor heard any of these old lettuce-growers refer to as a possible cause, viz.: the transmission of these diseases in the seed. My son first suggested this as a possible, yea, as a probable cause, some years ago, when the mildew and rot seemed to threaten the utter destruction of the lettuce business throughout New England. Acting at once upon that suggestion, I procured some of my seed from a part of the country (Northern Illinois) where the disease had never prevailed, and we became fully persuaded that had we used that seed wholly in the next planting in my house, we should have made a saving of at least one hundred dollars on that single crop.

Remedies.

To check the mildew, evaporated sulphur is often used. When I have used it, I have placed the sulphur in small tin cups, and heated them over kerosene lamps, by a simple nursing lamp attachment to the lamp chimneys. At the Hatch Experiment Station I see their arrangement is similar, but perhaps more convenient—a small kettle heated over an oil stove lamp. Great care is needed to prevent the brimstone taking fire, for, if combustion takes place, all plant life in the house will be destroyed in a very few minutes.

But Sunlight is Nature's greatest remedy for this, and perhaps nearly all the diseases that attack lettuce when confined under glass. It is because we have so little sunshine during the short days of early winter that makes the forcing of lettuce so difficult a business, for when this small amount of sunlight is still further diminished to any considerable extent by cloudy weather, as it frequently is, it is sure to bring disaster to the lettuce crop.

Artificial Light.

But it is right at this point where, I am confident, the next most important advance in lettuce-growing is destined to be

made, viz.: in the use of artificial light as well as artificial heat. Sunlight is one of the most, perhaps *the* most important factor in producing those subtle and mysterious chemical changes, essential in nearly all the processes of healthy plant growth. Ever since electricity was first introduced for lighting, I have believed that the electric light could be utilized in growing lettuce during the long winter nights. I did not suppose, however, that the pecuniary advantage would be enough to pay the cost. But I have often said that if I had a few thousand dollars that I could afford to throw away I would myself try the experiment for the sake of establishing what I believed to be a scientific fact. My reason for this belief was based upon the fact that the electric light has more of the elements of sunlight than any other artificial light, except the light produced by burning silver and gold. The light produced by the combustion of these two metals, we are told by scientists, give us precisely the same elements as constitute sunlight. But such a light would, of course, be altogether too costly for practical use in this kind of horticulture—at least, at the present low prices for lettuce—unless, indeed, unlimited coinage should sufficiently cheapen these metals. Perhaps that is what the Farmers' Alliance is driving at. But I think that gas light, or even kerosene affords a sufficiently brilliant light, if well focused, to show the folly of some of their financial theories.

A few years after I began to discuss my electric light theory for growing lettuce a paper was read before the French Academy of Sciences describing an experiment that had been tried in growing plants by electric light, and that it had proved a success.

In 1887, while spending the winter and nearly all the summer on the gulf coast at Tampa, in South Florida, an electric light plant was built in that city. The electrician was a young man from Chicago, whose acquaintance I made, and with whom I used to spend an occasional evening in social chat and discussing electrical questions, and in trying amusing electrical experiments, some of which we used to try in the college laboratory. Outside the office door of that electrical light plant was suspended an arc light of, perhaps, 2,000 candle power. I noticed that under that light the grass and weeds grew much more rapidly and vigorously

than they did just around the corner of the building, where they did not get the direct rays of the light. Perhaps you, who reside near the electric lights in this city, may have made similar observations.

I know of only one person who has actually tried the experiment of growing lettuce under electric light, and that is that enterprising Arlington market gardener, W. W. Rawson, whom you well know. It was about two years ago, I think, that he began the experiment. He was then confident that the light would be of sufficient advantage to pay the extra cost. Desiring to learn further about his experiment, I wrote him a short time ago, inclosing a list of questions and leaving blank spaces for him to fill with brief answers. To me these answers are exceedingly interesting, for they more than confirm my most sanguine expectations, at least, so far as pecuniary results are concerned.

Here are my questions and the answers given by Mr. Rawson:

1. How many seasons have you used electric light in lettuce growing? One.
2. How many hours each night? Until 1 o'clock.
3. Number of lights in each house? One arc light outside.
4. What kind; arc or incandescent? Arc.
5. Candle power of each? 2,000; total power.
6. Number of houses lighted? One.
7. Size of each house? 200 by 24.
8. Cost of the lights? $15 per month.
9. How much time is saved in growing a crop in the short days of December and January? 20 per cent.
10. Does the light improve the healthfulness and quality of the lettuce? It does.
11. Is the pecuniary advantage enough, on the whole, to pay the extra cost? It is.

Accompanying the above answers, Mr. Rawson sent the following letter:—

Boston, Mass., Jan. 3, 1891.

Mr. S. H. Record.

Dear Sir.—I have answered your questions and I should have had the lights this season if I could get them, but the Company have sold all their power, and I wanted three large lights, 2,000

candle power each, but they could not furnish it, so I shall try again next season. I am very sure it will pay in two ways,—in the time and in the quality. Hoping this will be satisfactory, I am yours truly,

W. W. RAWSON.

I also wrote President Goodell, at the Hatch Experiment Station, to ask whether they had made any experiments of growing lettuce under electric light, or whether they had collected any facts on that subject from other sources. I asked for the address of any parties either in this country or Europe who had made the experiment, if he was able to give them.

Since writing this part of my essay I received the following letter from Prof. Warner, the meteorologist of the Hatch Experiment Station :—

AMHERST, MASS., Jan. 9, 1891.

MR. S. H. RECORD.

Dear Sir.—President Goodell asks me to answer your favor of some days ago. I am at present preparing an article on Electric Culture, or Electricity in Agriculture, which I may publish in bulletin form later. The experiment of which you speak has been tried in Europe and also at Cornell University. I have also studied the effect of electric light on plant growth. The experiment in Europe was in favor of the electricity. At Cornell, I understand, the plants grew very rapidly, the foliage was much better, but fruit-bearing plants were not as prolific under the influence of electric light as when grown in the natural way. Electric light has many of the essential properties of sunlight, but it remains yet to be proved whether foliage plants can be grown profitably by this artificial means. My experiments with dynamical electricity on the growth and development of foliage plants has led me to believe that electricity, as it exists in the atmosphere and ground, is a potent factor in the economy of nature and has much to do with the growth of vegetation. I have grown lettuce by this means and found in two cases—I have only recently started—that the advantage was in favor of electricity, the plants were better and healthier. I shall continue my experiments in this direction, and will give them to the public from time to time. Yours very truly,

C. D. WARNER.

HEATING GREEN-HOUSES.

I have had experience with but one mode of heating a lettuce house, and that by hot water. In my house, 26 x 168, I have

1,200 feet of 4-inch hot water pipes, heated by one of Smyth & Lynch's largest boilers (No. 7), which is guaranteed to heat 1,600 feet of 4-inch pipe. I think that most of the lettuce houses built within the last few years are heated by steam. It is claimed for steam, at least by those who make steam heating apparatus, that you can heat a house quicker, and that one can better control the temperature.

Some three years ago, Mr. Budlong of Providence, I am told, tore down and rebuilt his four large lettuce houses, varying in length from 150 to 500 feet, and is heating the new houses with steam. Probably the principal reason for displacing his old houses, was to substitute larger glass for his 6 x 8 light hot-bed sash with which his old houses were covered, and which he could utilize quite as well or better on his hot-bed frames. Whether his new steam heating arrangement is an improvement enough over the water heating, to warrant so expensive a change, I do not know. But I very much doubt if it is.

I base this opinion upon the results of a careful, comparative test of hot water and steam heating for lettuce growing, made by the Hatch Experiment Station, and published in their Bulletins, Nos. 4, 6, and 8, in which every detail of the experiments are minutely described, and the daily and final results are tabulated.

Two houses were constructed during the summer of 1888, 75 x 18 feet, as nearly alike as possible in every particular. Two boilers of the same pattern and make were put in, one fitted for steam and one for hot water. Their first published test showed that the hot water gave the best results, and at a saving of cost of about twenty per cent.

Much discussion having been provoked relative to the results of that experiment, and especially as to the accuracy of those results, last winter, 1889–90, they made a "careful repetition of the experiments to correct any errors that might be found and to verify previous results, the boilers having been run with the greatest care possible from Dec. 1, 1889, to March 17, 1890," and, as before, the temperature was taken five times every twenty-four hours and the coal used in each house daily, weighed. This experiment confirmed the results of their former experiment, as

to temperature, and the better control of heat, secured by hot water, and this time at a saving of over 32 per cent. in coal in favor of the hot water.

Cucumbers Under Glass.

The conditions required to grow cucumbers successfully under glass are, in several important respects, radically different from those of lettuce—so much so, that the two plants cannot be grown together in the same frame or green-house. The high night temperature (60° to 65°) which the cucumber requires would be ruinous to lettuce, while the low temperature (35° to 40°) at night needed for the healthy growth of lettuce would soon give the cucumber its death.

Both lettuce and cucumbers might do fairly well together in the day temperature suitable for lettuce in sunny weather, provided no cold air was admitted to keep the thermometer from going above 70°. But while we should ventilate the lettuce when the thermometer was getting above 70°, we should not give air to cucumbers until the temperature reached 100° or more.

Another radical difference between the cucumber and lettuce is in the very much greater skill and care required in manipulating the cucumber plants. Any one can transplant the lettuce and make it live. None but an expert can transplant the cucumber with any success at all. A single day's work of a novice at potting cucumber plants once occasioned me a loss of a little over $300 even after being carefully instructed and shown just how to do it.

But even very much greater skill and care are needed to transplant a cucumber from the pot or from the bed into the place where it is to grow and fruit, than in potting the plant when small. If the soil falls off, or becomes very much loosened from the roots of a large cucumber plant when placing it in the hill, you might as well throw it away, first as last, for it can seldom be saved so as to amount to anything.

In planting out the cucumber into hills where it is to fruit it must be handled with such gentleness and care that it will never know it has been moved. To check the growth, even but a little, does the plant an almost irreparable injury.

The great secret of success in forcing cucumbers under glass, consists in giving the seed a quick start, and then keeping the plants growing rapidly and *continuously*, without any check if possible, either from unskilled handling or lack of heat or moisture.

The Seed Bed

Should consist of some six inches of finely pulverized and moist soil, placed on top of a foot or more in depth of fresh and very active bottom heat—stable manure in a very high state of fermentation—or in direct contact with the water tank of an incubator. It does not require a large space simply for the germination of a large quantity of seed, for the seed may literally cover the ground, or even be two deep for that matter, provided it is well covered with soil. Cover an inch deep with mellow soil sifted through a fine coal sieve, or mason's sieve, and press down firmly and evenly.

Potting the Plants.

Just as soon as the plants show themselves above the soil (which will be in 48 hours or less, if your heat is just right) they should be pricked out into pots (3-inch pots are about the right size) in fine, moist, warm soil, firmly pressed in and then plunged in soil over fresh fermenting manure in a hot-bed frame, or else in a house heated to a high temperature.

When the air outside is mild, ventilation should be given, but not enough to cause the thermometer to drop below 75° or 80° in the daytime.

The soil in the pots should be kept moist by frequent watering with warm water, if you can. Though this is not absolutely necessary.

Repotting.

When these plants have grown a few weeks in the pots, and especially if they become "long-legged," as gardeners term it, it is well to repot them, setting them deeper down in the soil, and perhaps in a pot one size larger—say a 4-inch pot. A larger pot, however, is not always necessary, for it is well to let the plant

roots pretty nearly fill the pot before being transplanted to ground where they are to grow.

Another plan of growing the plants, is to transplant them once or twice into the soil over the bottom heat in the frame, or in the house soil instead of into pots, at least 6 x 6 inches apart. When grown in this manner greater care and labor are required for the last transplanting into the place where they are to fruit. This is done by pressing deep into the soil around each plant a short piece of 6-inch stove pipe made smooth and sharp at one end. Then a shovel is pushed beneath the stove pipe, and the plant and its surrounding soil carried without disturbance and planted where it is to grow and then the stove pipe is withdrawn.

The plants should be from 8 to 10 inches tall, and as stocky as plenty of room will make them, and just beginning to put forth runners, when removed to the soil where they are to fruit.

If they are to fruit in hot-bed frames, a ditch 18 inches wide and 12 or 15 inches deep, running along the middle of the entire frame, should be filled with bottom heat and covered six inches with fine soil, which should be allowed to get thoroughly warmed through by fermentation and sunlight before receiving the plants. In a heated house no bottom heat like this is necessary.

From this time on, until large enough to fruit, the principal labor and care will be to keep them sufficiently moist and sufficiently warm, giving some air, of course, when the weather is mild.

One plant to each sash (3 by 6 feet) is sufficiently thick for fruiting. In a green-house the vines are trained on a trellis, usually made of tarred marline or lathe yarn, about one foot apart, stretched tight on leaning supports. In the hot-bed frames the vines are left upon the ground.

Fruiting.

When the plants have attained a vigorous and stocky growth of some three feet or more in length, they may be allowed to begin to fruit. If your vines are in a house now is the time to bring in your bees that they may mix the pollen, which is necessary for fruit bearing. If your vines are in hot-bed frames and

the season is not sufficiently advanced to permit them to be opened, at least a part of the day, for bees to enter, and particularly if too early in the season for bees to be flying, the fertilization or mixing of the pollen must be done by hand, else you can have no fruit.

But cucumbers grown in frames where it is so difficult to introduce the bee while the frames are closed, are not often planted early enough to require hand fertilization, as this would be slow work, although it can be done and often has been done.

Watering.

The cucumber, as well as lettuce, requires a great quantity of water, especially when fruiting and particularly after the weather gets warm enough to keep your house or frames open nearly all the time. A thorough watering every alternate day is then required to keep the plants thrifty and prolific.

My house having a slope of one foot in sixteen, I have for several years irrigated instead of taking the time of one man half of each alternate day to water the plants. This I do by letting the water run through the hose on to the bed at the upper end of the house, and follow a slight depression or channel in the soil along the roots until it reaches the lower end, changing once in several hours to other grooves on each bed until all parts have been sufficiently moistened.

We practice the same method also with the cucumbers in the outside hot-bed frames, which are also on sloping ground.

Diseases and Pests.

The cucumber does not seem to be so susceptible to diseases as lettuce, and in this respect is very much less difficult to grow.

Last summer, however, nearly all cucumber vines in this locality and particularly those in open culture, later in the season, seemed to be affected with some disease that nearly ruined them. Perhaps this was in part due to insect pests, for there are of late getting to be several destructive insect pests besides the old striped cucumber bug and the large black squash bug.

Last summer the cucumber vines in my green-house, when fully grown and yielding their best fruitage, became suddenly and

almost completely infested with a dark-colored aphis, or louse, upon which tobacco smoke seemed to make no impression. They nearly covered the under side of the leaves and soon sucked the life out of them. The whole crop was destroyed fully a month before they would have ceased bearing, if unharmed.

Twice, specimens of these insects were sent to the Hatch Experiment Station, but both times failed to reach the Professor of Entomology before the leaves became dried up and the insects invisible. Once the professor was at South West Harbor, Maine, on a vacation, and the insects were forwarded to him from Amherst. Why the second installment should have failed to reach his assistant at the station I know not.

I afterwards sent some cucumber leaves from the later vines in out-door frames, which were infested with a similar pest, if not indeed identical. My son was doubtful about their being the same insects. Prof. Fernald pronounced these the *aphis cucumeris*, a real plant louse, but the "life history of which has not yet been fully made out." He says, "There appears to be three forms: 1st, wingless females like those you sent; 2d, males and females with wings, which pair and lay eggs, but where is not known; 3d, a wingless form that feeds on the roots, differing considerably from those you sent."

He mentions "Road dust, Pyrethrum powders, tobacco smoke, and kerosene emulsion; all which have been tried with varying success," he says. But he suggests avoiding growing cucumbers on the same ground next year where these pests appeared last season. He makes the same suggestion for squashes, melons, etc., that have been similarly infested.

For the destruction of the root-infesting aphis, he recommends the use of "*bisulphide of carbon*, half a teaspoonful poured into a hole two inches or more deep made in the ground about three inches from the stem of the plant. Then press the dirt together and down into the hole as compactly as possible."

"The liquid changes to a vapor which is deadly to insect life, and as it permeates the soil it reaches the roots and destroys the insects feeding on them. It must not be used where there is a light, as an explosion might occur."

Cucumbers grown in out-door hot-bed frames or following let-

tuce in a lettuce house, in this latitude, are not usually sown until into March or April, and planted out where they are to fruit a month later, so as to come into bearing the last of May or first of June. To grow them in mid-winter it is necessary to have houses built expressly for this business, double glazed all over. But this is so expensive and the winter market is so limited but few undertake it.

22d January, A. D. 1891.

ESSAY

BY

J. HOWARD HALE, OF SOUTH GLASTONBURY, CONN.

Theme: — Small-Fruits; their Culture and Variety.

PRESIDENT PARKER introduced Mr. Hale, who proceeded at once to the consideration of his theme.

He said the increase in the consumption of small-fruits in the cities has been remarkable in the last twenty-five years. As people grow more refined their appetites become refined. A wonderful mental development is going on in this country, and that means an increasing demand for the delicate fruits. The market for poor fruit grows poorer at the same time, and the profits go only to those who grow the best fruit.

The old method of raising strawberries and raspberries in matted unkempt beds after the first year is no longer profitable. An average family of refined tastes will use 15 to 30 quarts of strawberries a day if given a chance at a field, and the farmer who neglects to plant his own fruit on the plea that his ground is unfitted, and that he can better afford to buy what his family needs, is sure to fail to keep his family supplied with the luscious berries. Every farmer has some land that will produce fruits for the family, and the production of his own food should be his first care. Any one near a small town can cultivate small-fruits at a profit. I should not advise a farmer who is at a distance from a railway to raise small-fruits on a large scale. Generally, any good corn land will be satisfactory. It is well to have a variety of fruits, so that the failure of one crop may not be a failure for the whole year's work. The strawberry is the leading fruit and the first to ripen. If your soil is light the

strawberry is the best plant, but if you wish to raise good berries, a strong loamy soil is better. On light soil, plant varieties that root deep. Low swampy places, I think, will afford excellent crops of fancy strawberries. In preparing the ground plough eight inches deep, unless the subsoil is poor. Subsoiling is satisfactory when possible. After ploughing apply the manure, and harrow it in. For strawberry culture commercial manure suits me best. Stable manure furnishes more nitrogen than is needed. It will make the foliage growth heavy and handsome, but the plants will not be so fruitful as when fed with commercial fertilizers. Make your own fertilizers. We use a fine ground bone for the phosphates, and wood ashes, cotton seed ashes, or muriate or sulphate of potash for the potash.

Apply a ton of bone and a half-ton of the potash for one acre of ordinary soil for the raising of fine fruit. Give each plant a square foot of soil. Plant the rows three feet apart, putting the plants from 12 to 18 inches apart. Another plan is to mark the field in "check" rows four feet apart, and put the plants in hills. This plan permits cultivating with the harrow.

In the first plan a few runners should be allowed to grow in the row. In the second, or "bog hill" plan, a new bed can be started easily. As soon as the berries are picked go to work on the bed. A horse and cultivator should go through as often as three times a fortnight all summer, and the field should be hoed by hand once in two or three weeks till October. The "Sunnyside" hoe, invented by Mr. Earle of Worcester, is the best. We use the French cultivator, which has adjustable teeth. The mulching in the fall is most important. Many a field has been ruined by mulching it too early. Don't mulch till the ground is thoroughly frozen. If your bed has not been mulched yet, it has not been harmed. The danger is from thawing in the spring. Don't mulch too deep. A ton and a half of marsh hay per acre is enough. Coarse stable manure may be used, but it is the poorest of all mulch, because it stimulates the growth of the foliage, to the detriment of the fruit. Let the plants grow up through the mulch. Irrigation produces magnificent results. Sprinkling water on the ground is the least satisfactory irrigation.

In the family plot, if the small boy will not, the women generally have to pick the berries. For market, good girls and women make the best pickers. Boys are a nuisance usually. Not more than a dozen pickers can be managed by one superintendent. I pick early in the morning for local markets. For shipment it is better to pick towards night. The fruit picked when dry in the afternoon will keep 48 hours longer than that picked when wet with dew. Berries should be packed honestly in new white baskets. Don't pack a basket of berries you would not be satisfied to buy yourself or give to your best girl.

The Crescent Seedling is, perhaps, the best known variety. The Haviland sells well and is profitable. The Bubach is another profitable berry. The Crescent lacks fertilizing properties, and other varieties, such as the Ironclad, have been planted with them to furnish pollen. The Warfield is another pistillate that is a good general purpose berry. The Charles Downing and Winner's Prolific are both excellent berries. Sharpless succeeds well, but is not very profitable.

It is impossible to predict the success of a berry in any locality. You must try the varieties for yourself.

F. J. Kinney, A. J. Marble, and Henry Reed, of Brookfield, asked the speaker questions on the variety and culture of strawberries.

R. A. Abbott said that he had had trouble with the Haviland.

James Draper asked if the speaker did not think that pistillate varieties were affected by the kind of berry from which the fertilizing pollen comes.

Mr. Hale did think so.

Herbert Cook, of Shrewsbury, who was called upon, thought occasionally over-production by reducing the price and tempting non-consumers to become consumers increased the demand for fruit ultimately. He favored sulphate of potash instead of the muriate. He did not believe that the second year of cultivating strawberries would pay.

Mr. Kinney said he managed to get a good crop of grass besides the crop of strawberries during the second year.

Mr. Hale then spoke of raspberry culture. Raspberry plants should be set late in the fall or very early in the spring.

Blackcaps are hard to set. Many plant them in hedge rows. "Check" rows are cheaper. The best pruning is done by pinching the new growth of the cane. It don't pay to cut out old canes before spring. In the winter they sustain the new canes. In the spring they can be cleaned cheaper. It pays to use pint or half-pint baskets for marketing. The Springfield Blackcap is early and good. The Gregg is the largest, but not reliable. The Pioneer is new and vigorous. The market for raspberries is limited and peculiar.

There are too many wild blackberries for the blackberry to be a staple crop here. The "Lucretia" dewberry (the ground blackberry) is a very rich, large berry. Let it run on an arbor; on the ground it is hard to pick.

There is a splendid market for currants here. At present New York supplies three-quarters of the currants used in New England. The Victoria is late, hardy and profitable.

29th January, A. D. 1891.

ESSAY

BY

WILLIAM H. SPOONER,

President of Massachusetts Horticultural Society.

Theme:—Garden Roses; and their Culture.

The taste for the cultivation of the Rose is constantly increasing, and the demand for the finer class of flowers is steadily growing; and the first question that a would-be grower naturally asks, is, "What varieties shall I plant, and how shall it be done to the best advantage? What class of plants shall be used for the purpose, the so-called worked, or the own-root plant?" There seems to be a peculiar fascination in this study even for persons of the highest culture; the yearly changes in the rose garden are so many that the charm never ceases. My friend Francis Parkman, the eminent historian, is a living example of its influence, and has given it expression in his charming published work upon the Rose.

The late George Bancroft, statesman and historian, found that his rose garden furnished one of his most healthful exercises, to which he was largely indebted for his good health; and even if one does not attend to the practical details of culture, there is great pleasure in the inspection of the flowers.

As to the soil best adapted for their success, since we are often obliged to conform to the conditions that surround us, almost any soil may be worked into the proper state by careful treatment. Soils best adapted to the rose are those of a somewhat tenacious character, or such as are not likely to dry quickly; but any good garden soil, properly trenched after being well drained, and thoroughly sub-soiled will be likely to produce

the desired results. Avoid a location where water will stand about the plants in winter.

Autumn is the best time for trenching. In doing this, take a given amount of ground, dig a trench at first a spade in depth, and half that in width, removing the soil to the other end; then turn up the sub-soil at the bottom of the trench, place on it a plentiful supply of manure, not stirring it in, cover with the soil from the next trench and so on till all is complete. Half-decayed leaf-mould, spent hops, or fresh manure will answer the purpose, as the manure will be in good condition for the plants by the time their roots reach down to it. A space of three feet between the rows and two feet between the plants is a suitable arrangement of distance, as the plants can then be easily banked with soil for protection in winter,—quite an essential matter with Teas, which are more tender than Remontants and require more covering. In planting, dig trenches about twelve inches wide and from sixteen to eighteen inches deep; in the trench should be placed a liberal supply of well-rotted manure, with a little ground bone, all to be turned under with a garden fork.

The next branch of our subject is the selection of stocks, as the roses, if not on their own roots, are worked either on Manetti, Brier, or De la Grifferaie stock. Which of these is the best has been a matter of much dispute among cultivators, and is likely to continue, as the finer varieties cannot be had except worked on one or the other of these stocks.

The Manetti, for rapid increase of stock and for early maturity, is by far the best, especially on light soils, though it will flourish in almost any soil.

The Brier stock is suited to wet or stiff soils, producing its roots in a thick cluster at the base of the shoot. The Grifferaie stock is strong, and well adapted for this purpose; it is in itself a rose of great vigor and hardiness, a very free bloomer, and quite distinct in color,—so much so as to be noticeable in a collection.

In using the Manetti stock, if planted two or three inches below the collar or junction of the bud with the stock the bud will throw out roots of its own, and with this addition will pro-

duce plants of remarkable vigor. A very good method of developing the roots rapidly is to tongue the collar of the bud, by paring up a strip of the bark about one inch long on each side of the collar, and planting this below the surface.

The leaf of the Manetti is not to a beginner very easy to distinguish from the ordinary rose leaf. The stem after attaining a little size is of a reddish tinge, brown upon the older portion of the stem, generally with seven leaflets, the suckers coming up about the stems, while in the Brier the sucker is likely to extend some distance from the main plant. This latter stock starts late in the spring, which causes the plants to flower later. It is well adapted, for this reason, to the tea rose, which is grown almost entirely in this way in England, and is admirable for bedding purposes, growing with great vigor.

The production of own-root plants is a slow process, attended with considerable labor and expense; plants for stock must be grown along for one season in pots, in sizes from three to five inches in diameter. In the summer, these are plunged in the ground to the top of the pot, to prevent the plants from drying up too rapidly; and they must be kept thoroughly watered, and in a growing condition until August, when water is gradually withheld to ripen the wood, and allow an early start in growth in the autumn. By placing them in what is called a cold frame, that is an ordinary hot-bed, three to four feet deep, without artificial heat, covering with glass and shutters to prevent freezing, and keeping them in this condition from six to eight weeks in a temperature of about 40°, they will slowly start into growth, and when started about one-half inch they can be brought into a higher degree of heat; in six or eight weeks they will be in fit condition for making what is called green wood cuttings. A bed for this purpose should be prepared with coarse, clean sand about three or four inches in depth, into which the cuttings are inserted about one-half inch, and firmly pressed into place; they must be well watered and shaded from strong sun. These cuttings must be made with a single leaf to start the sap, and cause the cutting to callous before it forms its roots; this leaf will drop off in about two weeks. A continuous and uniform heat must be kept under the cutting bed, about 70° or 80°, over it about 20° cooler; it

will require from five to six weeks to properly form the roots. When the perfectly developed plant is taken from the sand and placed in a 2-inch, or thumb pot, so-called, these potted plants are placed over heat again to cause growth as quickly as possible. Several weeks will be required to give the plant strength to take care of itself, keeping it watered, meanwhile, and by the first of June the little pot will be full of roots and the plant in condition to transplant into the open ground, or (if intended to be grown in pots) placed in the size larger, say 3 inches, and gradually on to 4 or 5 inches.

After our plant is put into the ground in June, care will be necessary to keep the weeds down, and if the weather is dry, frequent watering will be required for the first few weeks, and hoeing at least once a week. At the end of the season our plant is about one foot or more in height.

If we intended to leave the plants in the ground for two years, they would be planted in rows two feet apart to allow room for drawing the soil about them in the fall for winter protection; but if to be lifted for autumn potting, we should place the rows nearer together, say 1½ feet apart for economy of room. It will be seen from our description of a one-year-old plant that the size is small, with very little fibrous root, consequently there is considerable danger in transplanting that it may die; a two years old plant is better, while a three years old is far preferable. It will be readily seen that the process of growing the *own-root* plant is very slow and expensive, and in commerce, we seldom find a satisfactory size for the purpose.

Another plan for striking own-root cuttings is to take them off in the autumn. Having decided about the quantity of cuttings which is wanted prepare a small frame of suitable size, place it on firm ground, and on this put six or eight inches of light soil with a plentiful addition of coarse sand. This should be pressed very firmly, watered, and left to settle; the cuttings can then be prepared. Select well ripened shoots as soft wood will generally die; these should be cut off at a joint; and some propagators prefer a shoot taken off with a so-called "heel," that is, a piece of the old wood of the shoot from where the cutting is taken. The cuttings should be from five to six

inches in length, and all eyes should be left. They should be inserted in the soil nearly their entire length, and care should be taken that they are pressed very firmly in the ground leaving no chance for water to get in and rot the shoot; cover closely with sashes for a few days. Before cold weather sets in, an inch depth of leaves should be spread about the cuttings to prevent the frost throwing them out of the ground. In the spring, they should again be pressed firmly, as the frost has probably lifted them to a certain extent. This plan of propagation is not attended in this climate with much success; it is not easy to find the cuttings in just the best condition; and the most successful system is that adopted by the commercial florists, of growing from what is called green wood cuttings, as first described.

The best plan of propagation for an amateur if he has a few plants in a healthy, growing condition, and desires to increase them himself is by layering. The process is easy. First stripping the leaves from a portion of the stem to be layered, make a cut on the upper side about one inch in length, then twisting it slightly so as to bring the tip end of the stem upright, or nearly so, and the tongue made by the cut pointing downward, draw the soil away so as to allow the burying of the shoot about three inches, pegging it down with a forked stick to hold securely, draw the soil about it, and press firmly. With most varieties this tongue will soon callous over, and roots will be produced from it. The work should be done from the middle of July to about September 1st. July is the best month, as it gives a longer season of growth.

Planting.

There is a difference of opinion in regard to the best season for planting. If we could control our seasons, autumn would be the best time, as the plant becomes thoroughly settled in the ground, and consequently starts with the season in the spring. The work should be deferred as late as possible, so that the wood of the plant will become thoroughly ripened, giving a chance for the sap to return to the root; this is particularly important for the dark roses of the Jacqueminot type, as they are very late in maturing their wood. This is one great difficulty

with that most beautiful of all dark roses, "Louis Van Houtte," and I never should plant the latter variety in the autumn, nor the Hybrid Teas, such as La France, Capt. Christy, &c. Of course in autumn planting, some protection is required from extreme atmospheric changes. This can be done by drawing the soil nicely about the plants from ten to twelve inches high, and heaped above this a liberal coat of manure; cold, green manure will answer the purpose as well as rotten.

In spring planting, there is no danger from loss by frost, and if done early in the season as soon as the ground is in condition, it is a safe practice. Plants which have been carried through the winter in a sound condition are in a suitable state for planting at this time. After planting care should be taken to prevent the surface of the ground from becoming parched or baked, by frequently stirring with the hoe, and by syringing the top of the plant to prevent excessive evaporation from drying winds, which causes the stems of the newly-planted rose to wither and die.

Pruning.

The object of pruning is to shape and strengthen the plant, and to give size and beauty to the flower. I do not believe in autumn pruning; it is so apt to cause the low dormant buds to push. This late growth seldom matures, and the tendency is to weaken the plant at a time when its strength should be reserved in its main stems in preparation, so far as possible, for the next year's growth and bloom. The best time for pruning is in April, after the soil has been levelled from about the plant and the manure covered under as much as possible, if it was put on in the fall.

In a few days after the buds have swelled sufficiently to show their condition, the work can begin by cutting out all dead wood, and all wood that indicates weakness, cutting the plant back to the plumpest bud, and all weak shoots should be taken out, so that none shall cross each other. It is the top bud that will grow first and in the direction in which it points, and we should cut back to a bud that points outwards. If we want to get rid of a misplaced shoot, cut it out to the bottom. It should

be our endeavor every year to get rid of as much of the old wood as possible, keeping the centre clear, cut with a ruthless hand, particularly with old plants. The question is often asked how many buds shall be left to a shoot; our answer is, "more buds can be left on each shoot in proportion as the plant, both as a variety and as an individual, is strong, and less in proportion as it is weak." That is, in the case of "Mme. Isaac Pereire," for example, which is a plant of remarkable vigor, the shoots should be left much longer, with a much larger number of buds, than in such a variety as "Horace Vernet," which is a weakly grower, giving perhaps but a single shoot and that one very weak, and perhaps not more than two buds; therefore the general habit of the variety must determine how far to cut back, and how many buds to leave. "Prune to an out-looking bud; as a general rule the more a shoot is cut back the longer will be the growth from the bud left at the top." We frequently find at the end of the season, "an extra well-ripened shoot, almost as firm as the old wood, with large buds. This is valuable, and plenty of space should be allowed for its development, less ripe shoots being removed to make room for it." All intersecting shoots should be cut out, so as to leave the centre of the plant with a free exposure to the air and sun, for it is among these short stems that the red spider and other pests harbor in the summer.

Pruning for exhibition should be done differently, as in this case our growth is for the best development of size and form. As but few blooms can be expected from a single plant, the number of plants of a single kind should be increased, all new light wood should be cut away, and a few shoots only left of extra strength and but few buds to a shoot.

Another important point for exhibitors to remember, a few weeks later in the season, is that for growing large flowers, a certain amount of disbudding must be practised. Around the central flower bud, will be noticed two or three smaller buds, which must be removed to throw the entire strength into the central bud; then if properly cultivated the single stem will carry a splendid flower. Several applications of liquid manure not too strong (about the color of weak tea), to the root of the

plant a few weeks before the bud opens, will have an invigorating effect upon the flower. This application should be made again after the first crop is over, to give increased strength to the autumn bloom. But we cannot have good blooms without fine foliage and this can only be secured by early and constant attention. As soon as two or three leaves are formed in the spring, we must dust or sprinkle them with hellebore, and watch for the worm that ties the tender leaves together, to destroy him, for he will soon be ready to nip the delicate bud. He is easily found by a little attention at the right time, and after overcoming his advances we may expect to gather a harvest of beautiful flowers. Later on, the rose-bug will be the next invader, and must be picked off as soon as he appears. The green fly must also be looked for, and hellebore is useless for it, whale-oil soap and tobacco steeped together being the remedy.

An exhibition of roses is not always the best place to select varieties for general culture, as the exhibitor is forced to take whatever is at hand on the required day; it might be a single bloom of Horace Vernet, and the only one of the season, or perhaps Gloire de Bourg la Reine, or Mlle. Marguérite Dombrain.

The chief purpose of my paper, however, is to select and name a list of twelve, twenty-five and thirty-six kinds the most suitable for general cultivation.

Selection of the best twelve Remontants:

Alfred Colomb, Charles Lefebre, John Hopper, Hippolyte Jamain, Mrs. John Laing, Merveille de Lyon, Mlle. Annie Wood, Mme. Gabriel Luizel, Mme. Victor Verdier, Ulrich Brunner, Victor Verdier, Prince Camille de Rohan.

For the best twenty-five, to the foregoing add the following:

Anna de Diesbach, La France, Baroness Rothschild, Dr. Andry, Mabel Morrison, Marquise de Castellane, Duchesse de Vallombrosa, Mlle. Eugénie Verdier, Dupuy Jamain, Mons. Boncenne, Jules Margottin, Paul Neyron, Prince Arthur.

For the best thirty-six, to the foregoing add the following:

Camille Bernardin, Fisher Holmes, Catherine Soupert, Countess of Roseberry, Duke of Edinburgh, Etienne Levet, Francois Michelon, Louis Van Houtte, Maurice Bernardin, Pierre Notting, Thomas Mills.

As a desirable selection of Moss Roses I would suggest:—

"Common, or Old Moss," vigorous free grower, color pale rose, fine double flower; the best of all.

"Crested," next best, of vigorous growth, flowers very large and double, buds beautifully crested, color light rosy pink.

"White Bath," a good grower, flower large and full, buds well mossed, pure white.

"Laneii," vigorous, upright grower and moderately free bloomer, color deep rose, round handsome bud.

"Baronne de Wassenaër," color deep rose; perhaps the strongest grower of all; wood very dark and spiny, blooming in large clusters of buds, not as mossy as some others.

"Celine," hardy, moderately vigorous, spreading, foliage dark colored, leaves rather small, a profuse bloomer, bud rather soft, not very double, color purple and crimson, pretty in bud.

"Marie de Blois," rosy lilac, large and full.

A few perpetual Mosses which are good:—

Blanche Moreau, a strong grower, the bud quite mossed; the expanded flower is large, full and fragrant; color pure white; the growth is upright; one of the best of this class.

James Veitch, a plant of good habit; color of flower dark violet shaded with crimson; fragrant, well mossed.

Salet, a very strong grower of spreading habit; color bright rose, blush edges, large and full.

Soupert et Notting, a plant of medium growth, flowers beautiful bright rose; large, full, and of perfect globular form; scented like the Cabbage Rose, rather uncertain.

Tea Roses.

A bed of Tea Roses should accompany the Hybrid Perpetuals in every garden, for the purpose of prolonging the blooming term, as the Teas are the only true perpetuals. They should be planted in beds in a rather dry position, somewhat shaded from sun, and in regular rows so that the plants can be covered with soil and leaves or litter for winter protection. I should here add a word of caution; in placing the soil and leaves about the plant, it should be an alternate layer of soil and leaves. These

freeze together and make a solid barrier against the inroads of moles or mice. Such treatment will repay the trouble by a magnificent display of flowers, coming into bloom quite early, and continuing until late in the autumn. One of the hardiest of this class for bedding is Gloire de Dijon. Sunset is an admirable variety for this. Also Souvenir d' un Ami. Another is Homer, a little gem and quite sturdy in constitution. Marie Van Houtte is an admirable rose. Perle des Jardins, Mme. Lambard, Mme. Berard, and Papa Gontier are also fine. We must bear in mind that it is in this class that we find our yellow roses, in which Hybrid Perpetuals and all Remontants are lacking. When Gloire Lyonnaise was sent out in 1884 as a yellow hybrid, it was hailed with eagerness as the missing color in that class, but, alas! it was a fraud in color. It is an exceedingly pretty rose, of a pale lemon color with a tea fragrance. Some of the Noisettes should be included in a bed of Teas, such as Celine Forestier, pale yellow, fine and fragrant; and Mme. Caroline Kuster, globular flower, pale yellow, and free.

If the grounds devoted to roses are large enough, and one portion is dry, and another is moist or stronger soil, the chances of a good summer and autumn bloom are far more certain. A friend in Lexington who has a large collection of roses, with one bed planted on high ground, where the soil is rather dry, cuts his early crop of flowers from this bed, while from another bed located on rather moist, tenacious soil, he had fine flowers late this season, among them some of the finest blooms of "Ulrich Brunner" I have ever seen. Frequent transplanting is also necessary for successful culture. Plants that have stood in one location for six or eight years, if lifted, the root and top cut back severely, and replanted a little deeper than before will soon come into fine condition again.

We now come to the worst drawbacks to satisfactory rose culture, viz.: Mildew, a peculiar disease caused by fungus, Sphaerotheca pannosa, which, if neglected for a single day, increases with wonderful rapidity. If the mildewed leaf of a rose is put under a microscope, it will, says Mr. Worthington G. Smith, be seen to be covered by thousands of threads of mildew, each of which consists of eight or nine spores, which as

they ripen are carried off by the wind. The spawn threads are here and there dotted over with little black grains, each grain so small as to be invisible without a common magnifying glass. Under a strong hand lens, the dots look like minute but perfectly round grains of gunpowder. Each dot is seen as a round black box with a number of curious, brown, sinuous, radiating appendages. Each globular box is no larger than the point of a needle. There is a comparatively thick outer coat to this box made up of minute pieces, spliced or dove-tailed together like the shell of the tortoise.

One infected rose leaf will in the autumn bear hundreds of these black boxes, each with its contained air-tight bladder of eight living spores; the precious boxes are quite impervious to drouth, frost, or water.

Another of the worst diseases of the rose, is the Orange Fungus, *Coleosporium pingue*, which in its earlier stages is pale yellow, then becomes orange, vermilion, brown, and at length black.*

Mildew does not seem seriously to affect the life or strength of the plant, as being a surface disease it does not strike to its marrow. For instance, the rose Comtesse de Serenye is one of the worst for mildew I have ever known, and yet it is a rose that grows with great vigor from year to year. In fact, mildew does not claim as its victims the weakest growers, but takes the strongest, such as that splendid variety Mme. Gabriel Luizet, and others of a like character. The last of July and August is the time to be on the watch for it, when cool nights follow warm days. You must then be ready the next morning with your sulphur bellows, for the enemy will surely be there! If all affected leaves could be gathered and burned (which would be quite possible in a small collection) the chances of transmitting the disease would be greatly lessened.

Orange Rust or Fungus, is the reverse in its action of mildew, coming from the inside of the leaves and stem. Mr. G. Baker says, "Orange Fungus chiefly attacks the lower leaves of the smooth-wooded class of rose plants, such as Victor Verdier,

* The Rose Mildew is described and figured in the Journal of Horticulture and Cottage Gardener, Vol. 72, pages 478, 479; in the Rosarian's Year Book for 1886, pp. 4–14. and in Paul's Rose Garden, 9th edition, pp. 146-148. The Orange Fungus is described and figured in the Gardeners' Chronicle, Vol. 26, New Series, pages 76, 77; in the Rosarian's Year Book for 1887, pp. 4–13, and in Paul's Rose Garden, pp. 151, 152.

Countess of Oxford, Hippolyte Jamain, and the like, while it is worthy of remark that Mme. Clemence Joigneaux, William Warden, Edouard Morren, and those of the same character of foliage, etc., are seldom subject to these forms of fungoid disease." Cutting off the affected branches and burning them is the best remedy; cut freely as is done for the fire blight on the pear, but be careful to prevent the rusty powder on the under side of the leaf from being scattered to disseminate the disease, and keep the decaying leaves raked up and burned.

Black spot on rose leaves is another form of fungus, caused undoubtedly by atmospheric changes. Prof. Humphrey, of the State Agricultural Experiment Station, in Bulletin No. 6, of the Hatch Experiment Station, October, 1889, says: —

"This is probably the commonest and most troublesome disease of cultivated roses, whether of out-door or green-house cultivation, in both Europe and America. It first appears in the form of dark discolorations of the upper surfaces of the leaves, which spread outward and often show a yellow band surrounding the dark spot. The centres of the spot frequently become dry and brown, indicating the complete death of the tissue. The spores germinate promptly on a moist surface, and readily infect fresh leaves. It is probable that this parasite of the rose is merely an imperfect stage in the life history of a fungus. In the lack of definite knowledge on the subject, however, we can deal only with the parasitic form.

"In combatting the disease it is essential to begin early, for leaves once penetrated by the mycelium of the fungus are irretrievably lost. All effort must be directed towards preventing infection, by the application of some protective compound. For this purpose it is recommended that the bushes be sprayed shortly before the unfolding of the leaves, again as soon as they are fairly opened, and at intervals of three or four weeks until the flowers begin to open, especially after heavy rains, which may wash off the protecting substance from the leaves, with blue-water, prepared as follows: Dissolve 1 pound sulphate of copper in 4 gallons warm water; when cool, add 1 pint commercial ammonia and 18 gallons of water. Any leaves on which the spots may appear should be promptly cut off and burned."

In conclusion, my advice to a beginner in rose culture is to plant a few kinds at the start, thoroughly acquaint himself with their character, and gradually plant more; practical experience is the best guide.

5th February, A.D. 1891.

ESSAY

BY

S. T. MAYNARD,

PROFESSOR OF HORTICULTURE IN MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST.

Theme:—The Use of Insecticides in Fruit Orchards.

[The local report was so imperfect that application was made to Professor Maynard for leave to use the copy published by the Massachusetts Horticultural Society, engaged like ourselves in the laudable attempt to find out the truth; and equally desirous of its widest dissemination. His courteous reply will provide an apt preface to the essay.—E. W. L.]

AMHERST, MASS., Feb. 16th, 1891.

E. W. LINCOLN, ESQ.,

My Dear Sir:

My talk before your Society was very similar to that before the Massachusetts Horticultural Society. I spoke in Worcester on some other insects and diseases than in Boston; for instance the Peach yellows and borer, or the apple borer, the currant worm, etc., but the matter other than these exceptions was substantially the same, and you are at liberty to make such notes as you choose from the copy. I enjoyed my visit to your Society, and hope the subject discussed will be taken hold of by your practical fruit growers in such a way as to settle the matter of the practical and economical use of insecticides and fungicides. One great difficulty with our fruit growers is that they do not make careful records of their work when experimenting, and it takes a long time for them to get at the truth of such matters. We hope to have a series of experiments made in different parts of the State under one general plan the coming season, and have the results reported next fall.

Very truly yours,

S. T. MAYNARD.

AT this season of the year fruit growers, market gardeners and farmers are making their plans for the work of the coming

season, and in their estimate of the income they hope to derive from their crop, they reason, perhaps, something like this: One has one hundred apple trees or one thousand grapevines. If the apple trees are twenty years old they should yield at least three barrels per tree; or the vines if five years old or more should yield ten pounds per vine or 10,000 pounds, and reckoning the prices at the average for a decade he gets upon paper very satisfactory returns.

But how many of us make our plans for the coming year with any degree of certainty that the results will give us even a fair return for labor and interest on the capital invested?

We know too well from bitter experience the chances the crops must run with frosts, with storm and wind, with drouth and wet, and above all with insects and the many blights, rusts, mildews, rots and smuts, that feed upon and destroy the plants we cultivate.

We have the authority of the Entomological Bureau of the Department of Agriculture at Washington for the statement, that the loss to the farming interests, including all its branches for the past year amounts to four hundred millions of dollars ($400,000,000). This almost inconceivable amount of money from the destruction to our crop in one year. Yet who that has experienced the loss of his grape crop by mildew or rot, his apples by the scab, his pears by the scab and blight, his plums by the black wart and rotting of the fruit, his cherries and peaches by rotting of the fruit, his strawberries by the leaf blight, his potatoes by the potato rot and his oats and grasses by the rust, his cabbage crop by the club root, his celery by the leaf blight, his lettuce by the mildew, and his cuttings and plants under glass by damping off, will doubt that our losses are often as great if not greater from parasite or fungus plant growths than from insects.

It is seldom we get a crop of any kind without a valiant fight for it.

Fortunately we have learned to feel that we are greater than the foes that assail us, and that with each new insect or fungus pest soon comes a remedy with which we may protect ourselves if we will.

When the Colorado potato beetle first made its appearance among us we thought we must give up this important crop; but now we find that by proper vigilance the crop can be successfully grown.

So when we are almost discouraged in our attempts to grow fruit or other farm or garden crops, relief seems near us and we feel sure that we shall be able to combat all foes.

It is to the consideration of some of the most destructive insects and fungus enemies that I invite your attention.

Perhaps we can best get at the most desirable methods of using them by considering each fruit by itself.

THE APPLE. The codling moth lays its eggs in the blossom end of the apple soon after the blossoms fall, and continues to lay them for a period of perhaps two weeks to a month.

In some seasons and in some sections a second brood of eggs is laid by the perfect insect of the first brood.

The tent caterpiller and the canker worm feed upon the foliage, beginning their work as soon as the leaves unfold, while the plum curculio feeds upon the foliage and perhaps the fruit, laying its eggs in the crescent-shaped cut it makes in the skin.

These pests may all be destroyed by the use of the arsenit, Paris green.

To accomplish this we must make the application just as soon as the leaves unfold, to destroy the tent caterpillar and the canker worm; and as soon as the petals drop, for the codling moth and the curculio.

These applications must be made at intervals of from one week to twenty days, according to the weather. If there should be no rain after the first application for the tent caterpillar and canker worm, another application will probably not be needed until the one made to destroy the plum curculio and the codling moth, and then the applications should be made at intervals of from ten to fifteen days until July 1.

During this time we also combat the fungous growths, which under favorable conditions may begin work very early in the season. The apple scab is a minute plant that grows upon the surface of the apple-leaf and fruit, and while not penetrating

the tissue very deeply, stops the growth at the point attacked, and we have the distorted or gnarly apples resulting from its early attack, or scabby spotted apples when it appears later in the season.

Its effect upon the leaf is, if in large numbers, to destroy the functions, and it soon falls, or if only a few are found on the leaf, it simply looks a little yellow, and the whole tree has an unhealthy appearance. The past season it was so abundant that those trees that blossomed and set a large crop of fruit were so injured by it that they could not perfect their fruit.

Upon a large tree in front of the house I occupy, so much of the scab appeared that the leaves were constantly dropping nearly all summer, and the lawn had to be raked several times to get rid of the litter.

To destroy this parasite, solutions of copper have been found effectual, either in the form of the Bordeaux mixture, ammoniacal carbonate of copper, or simple carbonate of copper mixture.

While alone, the ammoniacal carbonate of copper has proved the most effectual. It cannot, however, be used with Paris green or other arsenites; and if we wish to reduce the cost of the remedy for both insect and fungous pests to the lowest figures (and all know how little margin for profit we have even when we do not have this difficulty to contend with) we must combine the two remedies and apply both at one operation.

With the Bordeaux mixture and with the simple carbonate of copper solution we can do this without fear of injury to the foliage. It has been found, by experiments made at several of the State stations, that Paris green and copper solutions can be used with lime mixtures at the rate of from one pound to fifty gallons of the mixture to one pound to one hundred gallons without injury, some even claiming as concentrated as one pound to twenty-five gallons. We also know that neither Paris green nor sulphate of copper can be safely used upon the foliage of our fruit trees in the required degree of concentration to destroy the above-mentioned foes, without serious injury to the foliage.

I am confident that the reason why the use of Paris green has been so unsuccessful in many cases for the destruction of insect life is from the fact that we have been unable to use it in a form concentrated enough to reach all parts of the plant without injury. This will also apply, in a measure, to the fungicides.

For the purpose of destroying both insects and fungous pests, we must make an application of simple solution of sulphate of copper, called by the French *eau céleste*, to the twigs and branches before the leaves appear to destroy any germs of the scab that may be lodged in the crevices of the bark; then as soon as the leaves have unfolded the lime and Paris green mixture must be applied for the tent caterpillar and the canker worm. Then as soon as the petals have fallen, a second application should be made for the codling moth and plum curculio.

This application must be repeated at the proper intervals of from one week to twenty days, according to the weather, until July 1. After this, the Paris green not being needed, the ammoniacal carbonate of copper may be used. The latter application is to be preferred, from the fact that it does not disfigure the fruit, while if the Bordeaux mixture is used late in the season it adheres to the fruit in such a manner as to injure its sale unless washed.

No substance has been found that can be used in this way, and at the same time, as the above fungicides and insecticides, owing to the apple maggot, a little insect that is doing, in many localities and upon some varieties, more injury even than the codling moth. The destruction of the fruit before the maggot escapes is the only remedy yet suggested that promises to be of any value.

The Pear. The insects attacking the pear that can be destroyed by arsenites are the codling moth and the plum curculio. The fungi that can be killed by copper solutions are the pear leaf blight and the pear scab or pear fusicladium.

The pear leaf blight is another minute parasite plant somewhat like the apple scab, but perhaps working deeper into the tissues of the leaf, causing all the leaves often to drop from the tree, and which also causes the scab and cracking of the fruit so

common on the Flemish Beauty, White Doyenne and some other varieties.

For the insect, Paris green is effectual and the Bordeaux mixture has proved as efficient as for the apple scab. While the "fire blight," so called, is not of such a nature as to be affected by the outward applications of fungicides after it has attacked the tree, we believe that this mixture will destroy any germs that may come in contact with it, and that by attention to the proper condition of the soil, manuring and cultivating, we may very largely overcome this most destructive disease.

THE PLUM. The plum curculio and the black wart, also the rotting of the fruit, have been found to succumb to the Bordeaux mixture and Paris green.

The only trees on the College grounds upon which the fruit was not stung by the curculio, or that did not rot as soon as it approached maturity, were those treated with the above combinations, and as other stations report similar favorable results, we feel warranted in urging its general use. The sulphate of copper solution should be applied to the branches to destroy any germs or spores of the leaf blight or plum wart that may be present before the leaves unfold. After this, from the time the blossoms fall until July 1 the combined mixture should be used. After this time, either the Bordeaux mixture or the ammoniacal carbonate of copper may be used. The latter will probably be the more satisfactory, as it does not disfigure the fruit.

The plum wart we feel sure was largely prevented from developing by this treatment, but the few that may secure a hold on the branches may certainly be destroyed by the kerosene paste.

THE GRAPE. In the College Vineyard the past season the benefits derived from the use of the Bordeaux mixture, and we have similar reports from others whenever used, were such that there seems to be no doubt that this is a reliable remedy for about all of the fungous diseases of the vine. The great objection to it is the adhesion of the material to the fruit if applied late in the season, but after the work of the rose bug has ceased, I see no reason why the ammonia carbonate of copper may not be used with equal effect.

In our experiments the destruction of the rose bug by the use of Paris green was not *fully* demonstrated, but from reports received from other quarters and the light we did gain from our work we feel sure that by the concentrated form in which it has been proved it can be applied with the Bordeaux mixture, it must succumb to this treatment.

The sulphate of copper solution was applied to the vines before the leaves unfolded, and the Bordeaux mixture at intervals of from one to three weeks up to July 28. Paris green was used only up to about July 1, or about four weeks from the time the rose bugs began to appear.

THE STRAWBERRY. During the spring and early summer our strawberry leaves in some localities are seriously injured by a little brown beetle that feeds upon them. This little beetle is the crown borer, the larvæ of which are at work during the summer eating the crown and main roots. Soon after the fruit has ripened, and sometimes earlier, the leaf blight attacks the leaves, and when both of these enemies appear, it is a difficult matter to get rid of them. It is believed, however, that Paris green will destroy the crown borer, and it is certain that it will prevent the leaf blight. An application of Paris green should be made as soon as the new leaves begin to unfold in the spring, and another a little while before the first blossoms open.

Neither the Paris green nor copper solutions can be safely applied after the blossoms open; but as soon as the fruit is gathered the Bordeaux mixture should be used alone up to about August 1st, when the Paris green should be added to destroy the beetles which again appear at this time.

The cutting and burning of the leaves, or their destruction with the blight spores at the same time, with dilute sulphuric acid, as has been recommended, is undoubtedly of some value, but the Bordeaux mixture is thought more effectual, and what foliage is preserved will add strength to the plants.

If one fears to use Paris green, hellebore will undoubtedly prove successful in the destruction of the crown borer, which feeds on the strawberry foliage.

I give now formulæ for making the fungicides that I have recommended.

Bordeaux Mixture.—Six pounds of sulphate of copper are dissolved in 2 gallons of hot water, and 4 pounds of fresh lime are slaked in water enough to make a thin lime wash. When both are cooled, pour together, mixing thoroughly and dilute to 22 gallons. Strain before using.

Ammoniacal Carbonate of Copper.—Three ounces of precipitated carbonate of copper are dissolved in one quart of ammonia, strength 22° Baume. Dilute with 22 gallons of water.

Eau Céleste.—One pound of sulphate of copper, dissolved in 25 gallons of water.

Modified Eau Céleste.—Two pounds sulphate of copper, 2½ pounds carbonate of soda and 1½ pints of ammonia (22° Baume). Dilute with 22 gallons of water.

Kerosene Emulsion.—One pound common soap dissolved in hot water; 1 gallon kerosene. Stir or churn together until a smooth, butter-like substance is formed. Dilute with 25 to 50 parts of water.

Kerosene Paste.—Mix kerosene with any fine, dry material or pigment forming a thin paste or thick paint. Apply with a small brush.

Insecticides. In the discussion of insecticides I have mentioned only Paris green among the arsenites, from the fact that reports from all sources agree that it is less injurious than London purple, and that white arsenic is too dangerous a material to have about where it might easily be mistaken for many harmless substances of a similar color.

Spraying Pumps. Many forms of pumps are now to be found in our markets adapted for the application of the fungicides and insecticides. Of those most in use perhaps the best known are the "Field's Perfection," made by the Field Pump Company, Lockport, N. Y., the Gould pump, made at Seneca Falls, and the Mixon, made at Dayton, O., all of which can be attached to casks and placed on a stone-boat or wagon.

The knapsack pumps which are serviceable for small garden plots and small vineyards would be more useful if some means were provided for filling them without removing them from the back every time. The Excelsior Knapsack Pump, made by William Stahl of Quincy, Ill., is made after a design, I under-

stand, that was sent out from the Agricultural Department last spring.

The French use such pumps very largely; but Americans will make little use of them where much work is to be done, when the horse can be made to draw the liquid for them.

NOZZLES. A nozzle to distribute such liquids as the Bordeaux mixture must have an adjustable opening at the end. Among those to be found in our market are the "Perfection," the "Nixon," the "Cyclone," the "Vermorel," and many others. Professor L. H. Bailey of Cornell University has contrived a clamp which is attached to the end of a common rubber hose, by the pressure of which the size of the opening is quickly adjusted. Whatever the nozzle used, it must be attached to a long pole to distribute the liquid most evenly at the top of high trees.

Many interesting facts have been brought out in the work of the many experiment stations of the country which could not be referred to in the previous discussion, and I have therefore introduced them here.

It seems pretty well settled that of the arsenites, Paris green gives the best results as an insecticide.

That the longer the mixture containing the arsenites stands the greater the injury from soluble arsenic.

That the foliage of the peach, plum and cherry is more susceptible to injury than that of the apple and pear.

That the injury varies with the varieties, some being more susceptible than others.

That young leaves are less injured than those fully developed, and are more injured on weak trees than on those that are vigorous and healthy.

That Paris green cannot be used alone with safety stronger than one pound to three hundred gallons of water, but with the lime mixture it may be safely used at one pound to from fifty to two hundred gallons.

That the foliage is most injured when kept constantly wet by light rains or foggy weather, but that heavy rains lessen the injury.

That the least injury is done when the liquid dries off most rapidly.

That the time of day when the application is made is unimportant.

The conclusions of this paper I have arrived at after a careful summary of the experiments made at the college and a careful study of those of all of the other stations of the country and I feel confident that as soon as we master the details of the application of the two great remedies, Paris green and copper solutions, so as to understand the exact time and quantity to apply under varying conditions, we shall be able to control the insects and fungi attacking our fruits as well as we now control the potato bug.

12th February, A. D. 1891.

ESSAY

BY

GEORGE AUSTIN BOWEN, M.D., OF WOODSTOCK, CONN.

Theme:—Rural Homes; their Comforts and Embellishments.

THE homes of a people are the index of a nation's civilization. They are the creators of sentiments and ideas, the growth of which show in civil governments, and broader, more advanced conditions, which we term civilization, a word grown from the old Latin *cives* a citizen, and means simply greater freedom and comforts for him.

In these days of astounding scientific discoveries and mechanical developments, which we term progressive developments of the times, we find many accessory questions coming forward which are mainly engendered by these wonderful advances; questions affecting the social life of the people, questions which the law cannot solve, custom cannot suppress or powerful armies remove. They are, however, amenable to the silent, unseen, but all-powerful influences of home and the home life, the truest educator, the best school, the most powerful elevator of the world, if its own conditions are right. If wrong, the most depressing and damnable. These questions will follow the home teaching. What better subject than this for us to discuss, and what better place for us to consider them, than in this very spot, in the heart of New England, for here are the best homes of any section of our country, and are in themselves an illustration of the truth of my statements.

It is the practical, the comfortable and the economic features of our home construction, that must claim our attention at this time, but I cannot pass the opportunity of emphasizing the fact that the mental growth of a people is coincident with their home

comforts and embellishments. Statesmen, divines, poets, men of letters, inventors, mechanical constructors, musicians, artists, directors of armies and civil governments, have never sprung from the dissolute and degraded, and from what we term the poverty-stricken abode. Many and many a time have they sprung from the home of the poor, but could we enter these homes we would find a refining influence somewhere within its walls, or that a previous generation had possessed them in abundance. We shall never see a reformer of morals, a Martin Luther, advancing from the adobe structure of the Southwest; a poet or musician from the Georgia "Cracker," or the mountaineer hut of Tennessee; nor a statesman from the abode of the French Canadian; but from them are more prone to come the gambler, the desperado, and the licentious.

The word home is one of the most vital in the English language, of good Saxon origin, and it has a dominating power equal to that of the Anglo-Saxon himself, who to-day dominates the earth. The Anglo-Saxon has a true home wherever you find him. The Gaul, the Spaniard, the Latin races, have no homes in the real sense of the word, and it is largely due to the home influences inherited through a thousand generations, that have placed this race at the head of the human family.

I have stated that the homes of New England are the best of our whole country, but we cannot regard them as perfect—on the contrary, far from it. There is much that we can criticise about them. Their location has not always been selected with the greatest discretion, their style of building is oftentimes heterogeneous enough to give delirium tremens to a well-studied architect. Their sanitary conditions are not in accord with modern ideas of hygiene, and the artist shudders and hurries by lest the inharmonious colors contaminate his well ordered ideas. Town homes and country homes as far as the house is concerned, are quite different things, and I am thankful, very thankful, Mr. Chairman, that you gave me the subject of Rural Homes, and not those of the city; for where land is valued by the square inch, and Mammon is the only God worshipped, my descriptions, criticisms, and exhortations would be of as little value as a minister's, but let us study a country home, what it can be,

what it should be, and then like good reasoning souls compare our own.

Let us start at the beginning, and present an ideal home as we would build one. We will commence where? At the foundation? No, that is too premature. At the location? That is secondary. The first consideration must be *what*, not where, we will have it.

First, we must make what ministers call a self-examination; if from their standpoint it is good for the soul, from ours it is good for the *vanities* of life which have always been the under dog, in a New Englander's reasonings, and now ought to have our sympathy. God Almighty placed them in our nature, I believe for a good purpose, and it will take more theology than New England has yet produced to change my ideas. A home should be for comfort, for happiness, and for health. For comfort we look to warmth and shelter, a dry soil, an easy access to the highway, etc.

For happiness, to views, cheerful surroundings, a suitable arrangement of rooms, to give personal seclusion when necessary, and the companionship of friends when we are so inclined, pictures, music, plants, open fires, piazzas for summer, heating for winter, and the hosts of little luxuries we all crave.

For health, to ventilation, good drainage, a full and pure supply of drinking water, and the proper arrangements of the outbuildings, the plumbing, sewage, etc., etc.

This self-examination will tell you what you want in these three categories, and if you also discover any little pet hobby or folly of your own you had better indulge it, and make your plans in accordance therewith, for the sense of comfort you will get out of it will more than counterbalance and be more satisfactory than the sense of "mortifying the flesh," as the old divines called it. Having discovered what we want in a home, the next step should be to secure the location. A gentleman of my acquaintance was once asked why he did not build his house on a level piece of land, rather than on a rough, uneven hillside. His answer was, that he "didn't propose to move out of New England, in order to find a building site." When a Western man builds a house, it makes no difference where he puts it. It

is like a ship at sea; one latitude is as good as another, as far as beauty, convenience, or sailing capacity of that ship is concerned, and a house on a prairie, is only a house on the prairie, and it cannot be made anything else. But New England has the finest building sites of the world. Healthful of location, cheapness and ease of construction, and picturesque views of hills, valleys, lakes and streams. An ideal location is not on a level piece of land, but upon a gently sloping hillside, with a rugged, uneven top, backed by a piece of wooded land. They abound everywhere.

When selected, adapt the house to the contour of the land, but don't grade the land to make it level for the house. One great advantage of such a location is, that you can get a cellar above ground,—if that does not seem a misnomer to you. A cellar under a house on level ground is a nuisance from beginning to end. This is a radical view of my own. I possess them on other matters as well.

For building material take that which the Irishman does when he goes into a fight, whatever comes most handy. What is more incongruous than a frame house painted a blazing white, set in a field where gray stones predominate? What is more beautiful than those same stones used in the construction of the house, their gray hues preserved, and presenting a harmony with the whole landscape? In New England we reject the best building material of the world, its granite and cobble stones. In New Jersey unhewn blocks of red sandstone are used almost exclusively in some localities, and blend in perfect harmony with the red soil of that locality. Wood should be used only in a region where trees abound, and are most accessible, and the house when built should not be painted, but stained some of the beautiful shades of brown, or gray, that harmonize so well with nature's coloring.

My chief criticism of house building has always been the imperfect foundations, and little or no care given to the soil and surface drainage. How seldom we find a good foundation laid in cement, and those foundations protected from the settlings and heavings of frost by complete drainage. Are your own buildings constructed that way, and how many of your neigh-

bors'? A dry wall of flat surface stone is almost universally used in the construction of foundations in the country; such a wall is subject to displacement occasioning an uneven settling of the building. In a brief paper of this kind, intended simply to head a discussion, we cannot mention all the various materials used in the construction of buildings that pertain to the modern system; should we attempt it, it would immediately grow to a volume.

The old-fashioned lath and plaster walls, to be covered with cheap paper made bright with poisonous minerals, has given way to more solid walls, painted or tinted, or made to look still more solid by the use of that sceptre of feminine authority, a house broom. The cheap flooring to be covered with an expensive carpet, has given way to a handsome substantial floor, whose beauty and healthfulness cannot be questioned. The narrow window screened with blinds on the outside, and heavily screened with curtains within, has gone, I hope, no more to return; the modern window is broad and ample, oftentimes of tinted glass which softens the rays of the too ardent sun, yet robs them of none of the life-giving influences. What is more comfortable than such a window slightly projecting from the room and furnished with easy chair or stationary seat?

I am not a builder, if I was I should be an enthusiast in this modern art of house construction, with all its details of workmanship and finish, the decorative castings for hinges and locks of doors, the various styles of ornamental wood-turning, carving, and stamping, which are now being used, and are so rich and tasty and withal so cheap. In fact, while it has assumed a more artistic form, giving a house an air of almost regal luxuriousness, it has actually cheapened the cost thereof, from one-fifth to one-quarter according to location.

The architecture of a country home is its chief consideration. I have but one word to say about that. Do not follow the present style and sacrifice the comfort of the interior for the appearance of the exterior. A friend told me a short time ago of an artist friend who had bought a country house and refitted it. In describing it to her he said "From every window I can look out

two miles and in any direction I see neighbors, but thank God, Miss Lily, not one Queen Anne house."

But shall we stop here in our ideas of an ideal home? by no means, for our house in its beauty of location and charm of modern construction is but a part of a home. The surroundings are equally essential, and what should these be? Statuary, bronze lions, dogs and deer, lying in impossible positions? by no means, they are terribly artificial if I may use the expression, and so are rows of sea shells and pebbles and hand-made rockeries. There are no greater ornaments for the house surroundings than trees and shrubbery, screening paths, breaking off the wind from driveways and much frequented parts, and always giving a change to the outlook as the seasons progress. Trees should not be too near the house but so placed that their shadows as they oppose the sun may pass over or near it.

Group the shrubbery in accordance with color, a Cut Leaf Birch with its beautiful white trunk and branches against a dark Evergreen, Purple Beech against the light green of the Junipers, etc. With the pathways and roadways filled with the surplus stone giving dry passage at all seasons of the year, with lawns following the natural contour of the land, still preserving the rocks and ledges, now ornamented with vines, which should also adorn the house, we have our ideal rural home. Although not expensive, displaying taste and elegance. Who would not be content in such a home? Especially if the interior corresponded therewith, and presented attractions for the mind by books, pictures, music, and furniture that was made to be used and not looked at. Would boys be anxious to leave such a home, and girls delighted when they had severed their relations therewith.

But I was to treat of the practical part of the subject, and house building is perhaps not pertinent to our individual condition. Because we are already supplied with a house, we may be like the little four-year-old boy, who was asked if he did not want a new papa, who answered "yes! but what in thunder can I do with the old one?" When we deal with the realities of life we have got to recognize one fact, that however desirable other scenes may be painted, we are fettered from the com-

mencement by the deeds of our predecessors. Our mental tastes and aspirations by hereditary transmissions, and our homes by the tastes and aspirations of some other person. The majority of us are not house builders, but are like hermit crabs living in the shell of another fellow, and the question that comes home to all is, how can I take this shell that was intended for a mollusk without any ambition than that of living and feeding, and fit it up, so as to give a dandy crab such as we the comforts and pleasures of a home.

Now this brings up the subject of the remodelling of old houses, a very important one in these days, and has become a special business with many men, some architects devote their whole time to it and receive handsome incomes therefrom. Now handsome incomes to them, must have a reverse side, and I judge that it reads a handsome outgo from the property owner. Therefore my advice to you who live in old houses and desire to remodel them is identical with Punch's advice to those about to marry, *Don't!*

Holy Writ cautions us against repairing an old garment with new cloth, and intimates that the rent will be made worse. If you are not a householder but hire your dwelling, you will find that your landlord will verify this text, at the close of the very first quarter.

I dwell in an old house. It is more than a hundred years of age. A large house, built not for modern wants but old-time necessities, and was bare of all ornament. It was a country inn and has a history linked with every old character that the town has known. General trainings made it famous. The old stage coaches added to its renown, and as it goes down farther in future, I think it will gain more yet as the only tavern in New England that Washington did *not* stop at. When it fell to me it needed repairing. One friend earnestly advocated transforming it into a Swiss chalet; another said raise the south roof one story, carry that left-hand corner up into a tower with an outlook and a flag-staff, and put a mansard roof on the rest of it; another suggested many changes in the interior, removing the huge chimneys with their open fireplaces that had caught and echoed the frolic and fun that had transpired around them, as

ancient worthies quaffed their flip and merry country dancers heeded not the fleeting hours, and suggested in lieu thereof a hot-air furnace, and, I added, an illuminated motto, God bless our register.

I wanted a rural home, and so I set about making one. A carpenter put a rustic porch, over three doors, a simple little structure, at a cost of less than fourteen dollars for all. The old sash had to come out, for they and the frames were as far apart as the representatives and senators of the Connecticut legislature, and the wavy old glass gave such distorted views of outer life as would transform a philosopher into a cynic, and as I was not much of the former, I feared that I should be very much of the latter if I allowed them to remain. A lower sash with large lights and an upper sash with small lights have taken their place. By letting my man and team, they earned the paint that transformed the glittering white monstrosity into an unobtrusive brown house, and my friend Mr. Hadwen—of whom some of you may have heard—sent me climbing plants that have now covered it all and made it a leafy bower in summer. Whether it was friendship for me that prompted the deed, or a sympathetic tendency to keep green the memories of the hot toddy of the days of yore, I will leave it for those who know him best to say. So my old home has been transformed, not modernized; when we attempt to modernize an old structure we find our work a failure, and that we have destroyed the charm that always clings to an ancient abode; we should strive to still further develop those charms, by simply intensifying the best features of the age to which it belonged.

The interior of a house should receive more attention than the exterior, for in this climate we are obliged to pass more time in doors than out, and here is the true home. And this is my idea of the general feature; large rooms, well lighted with broad windows, studding eight or nine feet which admit of uniform warmth and good air, and arranged to connect by wide sliding or folding doors, so that in summer they can be all thrown open, and have almost the appearance of one. "Le grande salon," as a Frenchman would term it. A broad hall running somewhere through the house, not necessarily plumb in the

middle, as the dude parts his hair, but wherever the arrangement of the rooms will best allow; the chief feature of this hall should be a broad staircase of easy ascent, and I much prefer that it should not be one straight ascent, but possess a couple of broad stairs and turns at right angles. These broad stairs are like "thank ye marms" on a long hill, and rests those whose powers are feeble, besides being more pleasing to the eye. Our old houses can many of them be improved in this way, by simply opening partitions and hanging portiéres over them, such rooms can be furnished according to our fancy, and here comes in the charm of a home; we show our individuality in this; we can make the pleasantest of houses stiff and formal, or we can take rooms naturally a little forbidding and make them bright and genial, if we are gifted by what is generally termed taste. Expensive furniture is not necessary, but it must possess a certain degree of artistic taste, and must be appropriate to the uses of the room. There are three decorative features that are always attractive to all classes of people and lend an air to a room that nothing else will. Books, pictures and plants. These are not expensive and are within the reach of nearly all our people. When Massachusetts equalizes her taxes, as I understand she is trying to do, taking one-half the present burden off the rural dweller, the farmer will have a little money each year to invest in books; just think what twenty-five dollars a year judiciously invested in books would do in furnishing a house and furnishing the minds of the occupants. I fear it would produce a mental earthquake in numerous instances, so if you report anything about this paper breathe this gently. Pictures are but reproductions of real life or nature, and the nearer they come to the actualities thereof the more pleasing. The picture of a home scene, groups of horses, sheep, or cattle, are always admired; so also of a quiet lake, reflecting shades of hill and woods with cattle on the shore, or deer feeding on the lily pads in the shallow; year after year they attract our attention; and such pictures ready framed can be purchased for a very small outlay. How much better to give such presents for Christmas gifts, than to spend twice their money value in worsted materials and develop an artistic monstrosity, which

when framed and hung on the walls half the callers read, "No T, no teapot," when the designer intended it for "No Cross, no Crown."

And so with plants, they need not be costly green-house specimens, which always disappoint, by the extra care demanded, and the lack of necessary conditions. A few packages of seed, a little fertile garden soil reinforced with a dash of ground bone, and a little loving care, and lo! the wooing of Flora is done and she graces the home with her showy and perfumed presence.

No art of social life, has attracted more attention of late years than the construction of dwellings; the time and thought of an army of intelligent men is devoted thereto; numerous journals serve to convey their ideas from one to another, and have completely revolutionized the whole building trade. This condition supplemented by the taste and skill of the landscape gardener, will in a few decades make the ordinary dwelling of to-day as obsolete as the log house of a century ago. In no one direction has this improvement taken place more than in the methods of heating. The old stone fireplace with all its charms was an expensive, imperfect and laborious method, and it is well for our health and comfort that it has passed away. The latest systems of heating by steam are wonderfully complete, are satisfactory in their results, giving a uniform temperature night and day, at a very moderate cost, and I am glad to note that they are being rapidly introduced into rural homes, one firm in my own vicinity placing two hundred and eighty during the last year.

I know of no greater comfort of a country home than this, or one more conducive to health and longevity. I have noticed a gradual betterment of the conditions and surroundings of rural life within my own memory.

There has been a steady improvement in the appearance of the buildings themselves, and especially in their furnishings. With the broadening of New England ideas—and God knows they needed it—there has been a result shown in the dwelling; less inclination to hedge oneself in with high walls either of prejudice or actuality. The front fence is an indication of it; in many villages not one is to be seen, and with it has gone the narrow prejudice and feeling of sect and denomination, adding

thereby years of comfort to our existence. You may tell me that the popular cry is, that rural life is declining in its conditions, and cite the everlasting statement of abandoned farms. All I have to say is that they ought to be abandoned, most of them. I will leave the development of this to your own thoughts.

I hope to see the comforts of rural life increasing, especially farm life, there has been so little in the past. Our life here is a short one. I believe that it was never intended to be one of labor and hardship, but of mental growth and development, which must have certain bodily comforts as necessary conditions. The subject your Committee gave me also included home embellishments, which I have developed but very little; it is a great one, and requires much thought, more than my limited time will allow. If you desire to see it promoted, I will suggest a transfer of the pocket-book to the good wife, who rules the home, and she will exemplify it for you, and prove that a good wife is in herself the greatest embellishment of a rural home.

19th February, A. D. 1891.

ESSAY

BY

JOSEPH JACKSON, Principal of Woodland-street School.

Theme:—Native Plants and Flowers.

Years ago we used to read, mark, learn, if we did not inwardly digest, in one of our school reading-books a little piece by Miss Roberts, "The Voice of the Grass," the mellow cadence of which is merely a type of the multitudinous voices of the native plants which are everywhere about us, but crowded from the paths of cultivation. While the vital interest of this Society lies in the cultivation of an exotic flora of æsthetic value, or of plants which have some economic value, the fact that such plants are native somewhere while our own are exotics elsewhere, should tend to prevent the native flora from becoming a matter of indifference. If we cannot rise to the feelings of Tennyson in "Flower in the Crannied Wall," we do not wish to sink to the depth of unsentimentality of Peter Bell, when

> "A primrose by the river's brim
> A yellow primrose was to him,
> And it was nothing more."

Somewhere between these two extremes we can find a place in which we can take a rational interest in the common every-day flora that surrounds us—an interest that will contribute to our pleasure and our intellectual profit.

Situated as we are, about half-way between the Equator and the North Pole, in one of the most highly favored latitudes, it is not strange that our flora should be a varied one, partaking of both a northern and a southern character, containing species of

world-wide distribution, genera related to tropical and polar kindred. One never realizes how varied and abundant it is until some special opportunity or interest leads him to investigate carefully.

The native flora is that which is associated with most of our recollections of nature. Fields of buttercups and daisies belong to memories of spring always, wild roses and wild berries to the summer, asters and golden-rods to the autumn. These are a perennial delight. They have been from of old; they are ever new.

From the sixteenth edition of Tracy's Manual, which covers the territory reaching southward to the 37th parallel and westward to the 100th meridian, we learn that the number of native genera of flowering plants is 761; of introduced genera, 128; of native species, 2651; of introduced species, 404. In addition to these there are 29 genera and 102 species of vascular cryptograms, represented mainly by ferns. Of this number it is safe to say that 400 genera and 1000 species may be found within a radius of a dozen miles from this city.

Some of our most common wild flowers have been introduced from Europe. Most of them, however, have kindred among the native genera and have here found a congenial soil. After the Old World competitions and survival of the fittest, they find themselves well adapted to hustle the more tender and less aggressive natives aside. They crowd into the domain of cultivation, and hence mostly take rank among the weeds. They belong largely to a few orders,—the cruciferæ, leguminosæ, compositæ, umbelliferæ, the labiatæ and the grasses. They often preëmpt the roadside and take possession of the abandoned or neglected garden. The bulbous and the tall buttercup are the two varieties with which most persons are alone familiar. The native species, less numerous in individuals and more retiring in habit, are mostly overlooked. The barberry is really a beautiful shrub, both in flower and fruit.

The first signs of returning spring are given us by the blossoming of the alders and the willows. The catkins of the alders have been hanging nearly full formed all through the previous summer and autumn and winter, ready to open when the first

warm days come. Their beauty will endure but for a moment, but that moment will be sufficient for its vital purpose. Many of the spring flowers are comparatively inconspicuous, and in the case of the trees and shrubs are mostly in catkins. The latter belong to the group of wind-fertilized flowers, those in which the pollen is carried by the agency of the wind from stamen to pistil. Here belong the alders, willows, hazels, the hornbeam and hop-hornbeams, oaks, the walnuts, the sweet fern, sweetgale, bayberry, butternut, poplars, nearly all of which are among the early spring flowers. But the most general interest does not lie in such flowers as these.

Year after year the pale pink blossoms of the trailing arbutus allure us to some favorite and well-remembered nook, where the sweet and quiet eyes are opening under the last year's dead leaves. Not so well known, but equally attractive, is the hepatica, whose pale blue or white peering among its tri-lobed downy leaves is the prize of the searchers for beauty. Fleeting, evanescent, dropping its two sepals before the petals are fully expanded and dropping its petals while you are carrying it home, the white-flowered, yellow-stamened bloodroot by many a brookside makes one more thread in the living garment of the Deity.

In the deep woods it may be that we shall find late in April one of our rare shrubs, which is more abundant farther north, leatherwood. Coming so early, the clusters of small, yellowish flowers naturally precede the leaves, as is also the case with others found in similar situations. The speaker then enumerated a large number of flowering plants, many familiar, telling something of the season in which they occur.

The speaker continued: Whatever can be found anywhere of botanical interest can be found in some form in our local flora represented in some degree. Does "the wild marsh marigold shine like fire in swamps and hollows gray" in English countries? If so, it shines under another name, cowslip, in our own meadows and lowlands. Do insectivorous plants attract the attention of naturalists? Nearly two-thirds of Darwin's work on Insectivorous Plants is devoted to the consideration of our common sun-dew. During several years that I had an oppor-

tunity to keep a record of the first appearance of each of our native flowers, the beaked hazel and the common hazel were among the earliest, the fringed gentian and the witch-hazel were the last. Between them came about six hundred species, the territory covered being quite small and only a limited time being allowed to devote to it.

Some of our native plants have an especial interest, from the fact that they have played an important part in the history of botany. Three illustrations must suffice. The first, pipewort, the only European representative of an especially American order, attracted the attention of Robert Brown, the most distinguished botanist of the first half of this century, and caused his life to be devoted exclusively to the service of botany. The discovery of that somewhat rare and curious moss, buxbaumia aphylla, directed the attention of Sir William J. Hooker, the organizer of Kew Gardens on its present high basis, toward botany and fixed the bent of his long and active life. It was the Spring Beauty that Asa Gray, who studied medicine, early watched.

An account of our native flora would be incomplete without some reference to those plants which produce edible fruits. About 24 species produce edible berries and 40 inedible berries.

Our flora is rich in the number of its forest trees and shrubs. Counting the evergreen plants that form a part of the forest flora, we have about 140 species, a noble list. Our knowledge of the local flora can scarcely be said to be ever complete. New species are being introduced in manifold ways, and many escape even watchful eyes.

About seven years ago the Worcester Natural History Society published a preliminary catalogue of the plants of the County, giving 812 species. I remember distinctly this circumstance connected with it. I often used to walk along the road from Millbury to Sutton. A slightly longer walk than usual one day resulted in the finding of two species not there recorded, arabis canadensis, sickle pod and water parsnip, then referred in the manual only to Pennsylvania around the Pocono mountains and to Connecticut. The additions to the flora since 1883 amount to 150 species, contributed by a considerable number of inter-

ested persons, and it is safe to say that more are interested in this subject than ever before.

Much yet remains to be done. There is an opportunity for some one to make a list of our common plant names, after the fashion of Holland & Britten's Dictionary of English Plant Names.

Our publishers, too, have an opportunity to popularize our native flora by issuing cheap editions of works, with colored illustrations. A picture is wonderfully helpful as a means of identification.

In concluding, the speaker warned people against destroying species, and said, "With a truer love for the beautiful, there will be no danger, and, with a greater knowledge of our native flora, will come the truer love."

After the lecture Mr. Jackson exhibited about a hundred mounted specimens of foliage and blooms of local flowers and plants, and President Parker, as he put the motion to give the speaker a vote of thanks, said that Mr. Jackson had spoken of giving the collection to the Horticultural Society. An interesting general discussion followed, O. B. Hadwen, S. H. Record, Arba Pierce and James Draper being among the participants.

26th February, A. D. 1891.

ESSAY

BY

E. W. WOOD, of Newton.

Theme:—Orchard Fruits.

In considering the subject of fruit culture, it is well to consider its relative commercial value compared with other leading agricultural and horticultural products of the State, also what, if any, are the local advantages for its production in this vicinity. The Secretary of the State Board of Agriculture, in his report for 1887, gives the following estimates for a single year: Fruit, $3,000,000; Market Garden, $2,500,00; Butter, $2,700,000; Corn, $1,000,000; Potatoes, $2,500,000; and this does not include the larger amount grown in private gardens and on small estates for domestic use.

The advantages of location are, first, in being situated in almost the centre of what may be termed the apple belt of the country. The northern portion of the Middle States, the New England States and a portion of the British Provinces produce the best apples, especially the later varieties known to commerce. And second, the opportunities for disposing of the crop.

With a constantly increasing home market and nearer the foreign market than any State having equal shipping facilities, with railroads running to every part of the State affording quick and cheap transportation, with simply a reference to the favorable opportunity offered to those wishing to engage in fruit culture by the large quantity of land running up with a growth of wood of little value but admirably calculated for growing the tree fruits and which can be purchased at a nominal

price I pass to consider the question proposed by your Committee.

ORCHARD FRUITS. This term is applied to our tree fruits and consists of the Apple, Pear, Peach, Plum, Cherry and Quince, named in the order of their importance as New England fruits. The apple enters more largely into consumption and is more widely disseminated in commerce than any other of our fruits. From 1870 to 1880 the export of apples to foreign markets very largely increased, reaching in some years in round numbers one million and a half barrels, and some of our prominent horticulturists hailed the increasing output as the solution of the question how an abundant crop could be disposed of at a profit. Since that time a new industry has appeared in the Middle and Western States calling for large quantities of apples, mainly for export trade. It is estimated that within a radius of forty miles around the city of Rochester in New York State in some years more than five millions bushels of apples are consumed by evaporation. If these estimates are correct there are more apples consumed within this limited area than all the green fruit exported from this country and the British Provinces combined.

The apple is continually becoming and must in the future continue to become more exclusively a farm product. The tree requires large space, and the land in our cities and near the centres of the larger towns is being divided into small estates where only the smaller fruits can be profitably grown.

The most desirable land for an apple orchard is not the most suitable for the ordinary farm crops, especially the cereal and root crops; the rocky hillsides with strong soil, if not too rough for cultivation, are the best locations for an apple orchard. The advantages of a slope over a level plain are that the trees are more open to the sun's rays necessary to give color and flavor to the fruit, and there is less danger from stagnant water in the soil.

If the land is under cultivation and in condition to produce sixty bushels of corn to the acre it is in good condition to receive the young trees. In selecting young trees secure

those making a fairly vigorous growth, three years from the bud, with straight trunk and budded on seedling stocks. Many of the trees now grown in the nurseries are root grafts, these grafts are set during the winter months and planted out in the Spring and in order to bring the root up near the surface are usually set on an inclination of about forty-five degrees, thus throwing the roots out upon one side. In planting out young trees it is much more important to secure an evenly distributed set of fibrous roots reaching in all directions than any particular shaped top as you can easily form the latter as you wish after the tree commences making growth, but over the direction of the roots after the tree is planted you have no control.

The care of the orchard while the trees are making their growth will depend upon circumstances, but if the best results are to be obtained the ground must be kept under cultivation at least as far as the roots extend around the trees. If in a location where there is a near market for the small-fruits they may all be successfully grown among the trees; the currant is especially adapted to cultivation under such conditions and will continue longer than any other fruit to return a profitable crop as it thrives best in partial shades. As the growth of the trees is the primary object fertilizers must be applied in proportion to the crops taken from the land.

The small growing fruit trees may be grown among the apple trees; the peach, plum and quince set in rows each way at half the distance between the apple trees, which should be at least thirty feet each way, will not during the average lifetime of these trees interfere with the main object in view. A more economic method may be followed, as follows: Set currant bushes a distance of four feet apart one way between the trees and seed the ground with grass, keeping under cultivation a strip five or six feet wide the first year and turning under every year a furrow of the grass turf upon each side of the grass plat as the tree roots extend and require the room; the hay and currants if properly cared for should make a satisfactory return for the use of the land while the trees are making their growth.

The care of an orchard after it comes into bearing is light compared with any of the cultivated farm crops and it is safe to say it will make a larger average return in proportion to the expense for labor and fertilizers. As no crop of any considerable value can be grown in a close set orchard after the trees substantially shade the ground the trees should have the full benefit of the soil either by clean cultivation or by frequently cutting whatever growth there may be and leaving it upon the ground.

Poultry may be kept to advantage in the orchard; with fifty hens to the acre in a bearing apple orchard no other care will be required for the soil than to run the cultivator occasionally for the triple purpose of stirring the soil, turning up the grubs and furnishing food for the fowls; no other fertilizer than that furnished by the fowls will be required to grow first-class fruit.

In setting an apple orchard the selection of varieties will depend upon the object in view: if to grow fruit for the wholesale or export trade few varieties will be required. A few years since an effort was made to ascertain the quantity of each of the different varieties exported and from the best data that could be secured it appeared that between eight and nine tenths were Baldwins. For an orchard for the above purposes, however large, the following varieties will be found sufficient: Gravenstein, Hubbardston, Rhode Island Greening, Baldwin and Roxbury Russet. If a home market is to be supplied the above list would be extended by adding any well-known local varieties and a limited number of Astrachan and Williams' Favorite. There are many other excellent apples fully equal in quality to those named but not as reliable for a crop under ordinary conditions. The Tompkins King is an excellent apple and, well grown, commands the highest price in market, yet it often fails to give satisfaction. The Northern Spy has high quality and a reputation that sells it easily in market, but its frequent failure prevents its general cultivation. The list might be indefinitely extended by varieties that under favorable conditions might be desirable which can only be proved by trial.

The apple tree is less subject to disease than any of the tree fruits and its principal enemies are the borer, canker worm and codling moth. Many young trees are destroyed by the borer; the eggs are deposited in the bark, generally at or near the ground; they hatch from the middle of July to the last of August. Various washes are recommended for destroying this pest which may prove more or less effectual, but a sure remedy is in a careful examination of the trees the last of July and again the first of September; as soon as the eggs hatch the young borers commence operations and cause a moist spot and discoloration in the bark easily seen and they may be quickly removed with the point of a knife. If any have escaped the previous year they will have eaten through the bark, and the dust or chips made in their progress through the wood will be seen at the base of the tree, which betrays their presence; they usually ascend the trunk and if their course has been straight they may be easily removed with a small wire; if the course is irregular and they cannot be reached with the wire, the track should be followed with the knife or small gouge until they are found. If undisturbed they will remain tenants three years; it is a case where eviction is not only justifiable but desirable.

The arsenites have been found the most effective means of destroying the canker worm, either Paris green or London purple is generally used; as the latter is more soluble in water it is more easily applied; mixed with water at the rate of one pound to two hundred and fifty gallons, one application thoroughly wetting the leaves has been found sufficient, but if the application is soon followed by rain it will be necessary to repeat it; the application is made with a hand pump having a hose attachment having a nozzle throwing a fine spray. Experiments by Prof. Cook seems to prove that the same mixture applied to the trees as soon as the blossoms have fallen has destroyed a large portion of the codling moths.

The apple under ordinary conditions is a biennial crop the trees bearing in a fruitful year so profusely that they make little growth and few if any fruit-buds. The bearing year for

the apple in New England is the even calendar year, this has been changed in some localities by late frosts in the Spring and in others by the canker worms. The bearing year may be changed by picking the blossoms from the young trees for three or four years on which they would naturally bear their fruit.

Many of the advantages of location claimed for the apple may with force be claimed for the pear. Nowhere is the pear grown with more uniform success or of better quality than in this State. The pear in its wild state is hardier and longer lived than the apple. There are trees on record abroad of large size and known to be near four hundred years old. The Endicott pear tree in Peabody imported in 1630 is still standing and continues to bear fruit; there are several trees in Salem more than two hundred years old. The Bartlett grown in England in 1767 under the name of Williams' Bonchrétien was imported into this country by Thomas Brewer in 1806; before the tree bore fruit it came into the posession of Enoch Bartlett, a gentleman much interested in horticulture and one of the founders of Massachusetts Horticultural Society; and the name having been lost he gave it his own name by which it has since been known in this country. At the last meeting of the Pomological Society in Boston three dozen specimens of fruit grown on this tree were shown; though there were some larger specimens grown on younger trees there were none more perfect on exhibition.

The young trees sold from the nurseries are about equally divided between standards and dwarfs and while the soil necessary to secure the best results with the latter will prove suitable for the former, the standard will do fairly well in soil where the dwarf will utterly fail. The quince requires a rich, moist soil and budding upon it the pear does not change the wants of its roots. If set in a light soil with sand or gravel subsoil it will not succeed, yet the dwarf is an important factor in growing this fruit. The amateur with his limited space must depend upon its early bearing to grow some of the desirable varieties that would look dim in the distant future if obliged to wait for them on the standard.

If it becomes necessary to set the dwarf in a light soil the conditions may be much improved by mixing a liberal quantity of marl or peat mud with the soil to retain the moisture.

In selecting dwarf trees select those budded close to the crown of the roots and in setting let the soil cover the junction of the pear and quince stocks, and as the pear is of larger growth than the quince it will overlap forming a callus from which the more vigorous growing varieties will throw out roots, eventually becoming standard trees; and where it is desirable to continue the dwarfs for a long time this may be more satisfactorily accomplished after the trees have become well established by removing the soil in early summer around the trunk and with a narrow gouge or knife raising narrow strips of the bark in the callus and pressing in a little earth between the bark and the wood, replacing the earth around the tree and mulching to prevent the soil becoming dry; the descending sap later in the season will throw out roots from the lips, thus forming a well distributed set of pear roots. By this process the early bearing of the dwarf is secured and the longer life of the standard, though smaller in size; the growth being checked by the early fruiting.

As the pear is largely used as a dessert fruit (though the demand is constantly increasing for canning purposes) a wider range of varieties is desirable than of the apple. For market the Bartlett, Seckel, Sheldon, Bosc, Dana's Hovey, Clairgeau, Angouleme, Anjou and Vicar will be found desirable varieties. For the amateur the above list with the exception of Clairgeau to which may be added Summer Doyenne, Gifford, Clapp's Favorite, Rostiezer, Urbaniste, Hardy, Louise Bonne of Jersey, Comice, Lawrence and Josephine of Malines. There are many other varieties of excellent quality and desirable under favorable conditions but the above list will be found reliable under ordinary cultivation. The Angouleme, Clairgeau, Louise Bonne of Jersey, Urbaniste and Vicar should be grown on the quince stock.

The pear suffers less from insect pests than any of our fruits, there is a slug that occasionally appears on the leaves between

the middle of June and the middle of July but may be destroyed by scattering ashes or dry dust from the road-bed over the leaves.

The greatest drawback in growing the pear is the disease known as the pear-tree blight; there have been various theories advanced as to the cause of this disease but the fact that it has appeared irregularly in most parts of the country, sometimes in succeeding seasons and again after the lapse of several years and run its course unchecked shows that the question of its cause or cure is apparently as far from a solution as when it first appeared. The most recent theory as to the disease is that it is caused by bacteria which are said to be found in the diseased wood, but whether the cause or effect, whether they precede or follow the disease, does not seem to be definitely settled. The disease makes its appearance in the early summer and will be seen by the leaves turning black; if the tree is but slightly affected, by cutting away the diseased portion down to sound wood it may disappear; but if it appears generally through the branches, showing the whole tree to be tainted, the loss of the tree will almost invariably follow.

The fruit of most varieties of the pear requires careful thinning to secure satisfactory results; while no definite rule can be given it is safe to say no two specimens should be left to touch each other while making their growth. Among the smaller varieties the Seckel and Dana's Hovey, and of the larger varieties the Angouleme, Clairgeau and Vicar will require careful attention. For the benefit of those left to grow it is desirable to do the thinning as soon as the perfect, well-formed specimens can be distinguished, removing the smaller and any that show imperfections.

The recent improvements in cold storage process have been of great advantage to pear growers by extending the time during which the fruit can be put on the market or the table in good condition; formerly the season for the Bartlett was limited to two weeks; now with a slight expense for storage it is extended over six weeks and the fine October varieties may be had in good condition as dessert with the Thanksgiving and Christmas dinners.

Only those of us who remember with what ease and abundance the peach was formerly grown can fully appreciate the loss we have experienced in the difficulty with which this fruit has been produced in later years. Formerly the trees were found in almost every garden; they came up in the hedge rows and by the roadside wherever the drifting soil by chance covered the pits, grew rapidly, came early into bearing and for years produced annually an abundance of the most delicious fruit known to the temperate climate.

The only insect enemy that seriously injures the peach is the borer who commences work at or just below the surface soil in the soft bark of the tree and if undisturbed will often completely girdle and destroy the tree. It is claimed that a mound of leached ashes one foot in height around the base of the tree from May till October will prevent their entering it, the same treatment recommended for the apple will prove effectual.

The most serious difficulties in growing the peach are the disease called the yellows and the killing of the fruit buds during the winter. The appearance of the former is indicated by the growth of small wiry shoots on the trunk or branches near the trunk, bearing small light-colored leaves; it is also shown by the fruit prematurely ripening, the flesh being higher colored and inferior in quality. This frequently occurs on trees apparently healthy; but if allowed to stand the following year the fruit will not attain more than half its natural size and will be of no value. In speaking of the cause of this disease, Downing says: "No writer has yet ventured to assign a theory which would explain the cause of this malady." The disease is generally believed to be contagious and it is recommended to remove and burn the trees as soon as the disease makes its appearance.

There have been various theories advanced as to the causes of failure in growing the peach. It is said by some that the peach being indigenous to a warmer climate will not endure the low temperature of our winters, but the records do not show that our winters are more severe than formerly when the peach was almost a certain crop. Some go so far as to say they can give the exact degree of temperature at which the buds are

destroyed, but reports from Michigan show that the peach trees passing through a winter temperature of twenty degrees below zero have produced a full crop the following season; it is seldom we experience so low a temperature in New England. In 1884 the peach buds were substantially all killed in Massachusetts before Christmas and the thermometer had not indicated zero weather at that time. It is said our more open winters exposing the soil to more frequent freezing and thawing are the cause of failure, in answer it may be said the buds are frequently killed before these changes occur.

It is generally conceded that the continued perpetuation of plants and trees by cuttings, budding and grafting tends to weaken the constitution; this is most readily seen in the succulent plants, every florist knows that he must renew by growing seedlings his bedding plants if he would have healthy vigorous stock; the healthy life of some of them may be limited to five or six years, deterioration becoming more rapid as the stock becomes matured or diseased.

For the last forty years the peach growers have confined themselves mostly to a few well-known varieties, viz.: the early and late Crawford, Cooledge Favorite, Foster, Oldmixon and Stump the World. The stocks have been grown from pits gathered promiscuously, often from fruit grown upon diseased trees and buds taken from trees in similar condition.

Under such conditions could we reasonably expect to grow a fruit having its origin in a warmer and more equable climate? In alluding to this matter Downing says: "Every good gardener knows that if he desires to raise a healthy and vigorous seedling plant he must select the seed from a parent that is itself decidedly healthy." Again he says: "Is it not evident that the constant sowing of the seeds of an enfeebled stock of peaches would naturally produce a sickly and diseased race of trees." Lindley says: "All seeds will not equally produce vigorous seedlings but healthiness of the new plant will correspond with that of the seed from which it sprang."

The opinions of men who have made fruit growing a life study, confirmed by our own experience, would suggest more

care in the selection of pits and a main reliance upon seedling trees until healthy stocks may be secured from which buds may be taken to continue desirable varieties. Some varieties of the peach will reproduce themselves from seed if planted a sufficient distance from other varieties so that the pollen will not be transferred by the wind or insects to their blossoms.

There are three species of wild plum indigenous to this country but the stocks from which have come our improved varieties had their origin in Asia and the southern part of Europe. The trees are perfectly hardy and make a strong, upright growth and come early into fruit. Could we overcome two difficulties in the cultivation of this fruit the trees would be found in every garden and the fruit would become a profitable orchard product. The curculio makes his appearance soon after the fruit is formed and deposits its eggs in a crescent-shaped cut in the flesh of the fruit which soon hatch and the young grub eats his way to the stone, when the fruit falls and the young larva enters the ground to reappear the following year. One method of dealing with this pest has been to spread a sheet cut to the shape of the tree and large enough to extend outside its branches and spread upon the ground and with a mallet padded with thick cloth give the tree a sharp blow which dislodges the insects and they fall upon the sheet curled up as if dead and may be gathered and destroyed. An easier way of overcoming this difficulty or reducing it to a minimum has been found in keeping fowls in the orchard and occasionally jarring the trees. A more serious trouble is with the black knot; so generally prevalent has this become that few trees more than five or six years in the orchard are not more or less affected. Formerly the cause of the black knot was supposed to be an insect but recent investigation seems to prove that it is a fungoid growth, and as it increases the spores become detached and are blown by the wind from tree to tree, so that if unchecked all the trees in the vicinity where it first makes its appearance become diseased. The usual practice has been among growers of this fruit to examine carefully the trees in the spring and cut away every appearance of a knot, but this often results in the destruction of the tree in the course of two or three years. The

parts cut from the trees should be gathered and burned at once. When the plum is grown on adjoining estates its spread can only be prevented by concerted action, as one tree left uncared for will keep the whole neighborhood busy. Some recent experiments at the Agricultural College at Amherst with kerosene oil mixed with whiting to form a paste and spread over the knots with a brush have destroyed the knots without injuring the limbs of the trees. Among the desirable varieties of the plum the Green Gage, though not as attractive in appearance, stands at the head of the list in quality. The Washington, Jefferson, Coe's Golden Drop, McLaughlin, Lombard, Bradshaw and Niagara are desirable varieties. The fruit is liable to rot before it is in condition to pick and as a preventive should be carefully thinned.

The cherry tree combines the useful with the ornamental in a higher degree than any of our orchard trees, especially the heart-shaped varieties with their upright, vigorous growth; symmetrical in form, with dark glossy foliage they are hardly excelled in beauty by any of the shade trees grown on public or private grounds. The cherry tree well established will continue to thrive under wider conditions and requires less care than any of our orchard trees. The fruit of some of the soft flesh varieties is fine in quality and desirable for the table while the firmer fleshed bigarreaus and the more acid varieties are desirable for cooking and canning. Some of the best varieties are liable to decay at the turn of ripening if the weather happens to be wet, a shower sufficient to thoroughly wet the fruit followed by extreme heat will often result in total loss. Another larger loss without special regard to varieties is by the birds, among which the red breast robin plays a conspicuous part; they commence as soon as the fruit turns color and take an unfair advantage by selecting the finest specimens. Among the many desirable varieties of the cherry may be mentioned Mayduke, Bigarreau, Black Tartarian, Gov. Wood, Coe's Transparent, Hyde's Seedling, and Downer's Late.

The quince forms a small tree, rarely more than ten or twelve feet in height; it is perfectly hardy, though the tips of the season's growth are sometimes killed during the following win-

ter. The tree requires a rich, moist soil for the best results, land bordering running streams, if free from stagnant water, offers the most favorable situation. The fruit is desirable for preserves, either alone or with other fruits to which it imparts its peculiarly fine flavor. The variety most widely grown is the Orange, but Mammoth and Rea's seedling more recently introduced are both larger and finer in appearance. The only enemy that seriously interferes in growing the quince is the borer, and the trees require careful watching to prevent his getting a lodgment.

The farmers who are inclined to compare the advantages of fruit growing in the New England States with some of the more Southern States where the tropical fruits are grown, should remember that they possess every advantage in producing some of the most widely known and universally used fruits, and they should not forget the advantage of a large and constantly increasing home market, reducing the cost of transportation and commissions to a minimum, with an export trade to absorb the surplus of an abundant crop. Those who hesitate in growing the orchard fruits because the returns are more immediate from assured crops can in no way add more to the appearance or value of their farms or offer stronger inducements to the sons to remain on the farm than in the prospective revenue from growing orchards which, combined with the small-fruits, may be made a source of income every month in the year. The owners of small estates can in no way add more to the enjoyment of their families than by growing a liberal supply of the various fruits in their season. Some of the pleasantest recollections of our childhood are associated with the fruits of the field and garden.

As expressing the thoughts of one whose life was largely devoted to the improvement of the fruits of the temperate climate, I quote the words of Charles Downing: "Fine fruit is the flower of commodities, it is the most perfect union of the useful and the beautiful that the earth knows. Trees full of soft foliage blossoms, fresh with spring beauty and finally fruit bloomdusted, melting and luscious such are the treasures of the orchard and the garden temptingly offered to every landholder in this bright and sunny though temperate climate."

5th March, A. D. 1891.

ESSAY

BY

FRANK J. KINNEY, OF WORCESTER.

Theme:—Garden Vegetables.

"GARDEN VEGETABLES" is the subject given us for discussion this afternoon, and it is a very appropriate subject at this season of the year. The garden and the home are synonymous. The first mention we have in history of man and woman was in a garden, and who knows but that was a vegetable garden. Surely, we are told that "out of the ground grew every tree that was pleasant to the sight and good for food."

One thing is certain, a home without garden vegetables is a poor home, and the more space there is allotted to a garden and the better it is cared for, the better it will be for the family; in fact, in passing through the country one can judge somewhat of its wealth and intelligence by the gardens of the inhabitants. Whether they are floating gardens as we find in China, or gardens on the roofs of buildings as are common in some of the thickly settled countries of the Old World, or boxes on the window-sill, or the large fields tilled as gardens by professional market gardeners, or the cramped and weed-grown gardens of the country farms; all have their tale to tell the close observer.

No person can tell the amount of desirable vegetables that can be grown in a small garden unless he has had one to cultivate. To get the best results one should have a sunny window or a small hot-bed. In this climate, our seasons are very short and there are many desirable vegetables that don't have long enough time to grow if the seed is planted in the open ground.

One of the most important garden vegetables is the Tomato, and the history of its short life, well written, would read like a romance. Since I was a full-grown boy I have found many places in my journeyings where it was considered poisonous, and a quarter of a century will cover its active existence. Any of us can remember when the Boston Market and Keyes' Early were the best; then came the Trophy, advertised as a *solid* tomato; then Livingston gave us his seedlings so far in advance of all others that they were almost universally grown for a few years, but last year gave still others as good or a little better. The tomato is conceded now to be a healthy vegetable, either in its raw state or cooked; and there are few tables on which it does not appear nearly every day in the year in some form. It is easy to raise and very productive.

If one does not care to grow his own plants he can buy them. There are large fortunes made every year in handling tomatoes, and there is no excuse for not having the fruit fresh from one's own vines for several months, if so situated as to have a garden.

The next garden vegetable of importance is Spinach, and that like the tomato has grown in favor very rapidly and has also been greatly improved. It can be easily kept in the winter in-doors, and lives over out of doors to cut early in the spring; or it can be sowed in the open garden as soon as the frost is out of the ground two inches deep, and is seldom injured by the frost. It is a very wholesome vegetable, and easily prepared and cooked.

Lettuce is an appetizing salad and easily grown, and by starting in the window can be had quite early in the season; and there are varieties that can be grown all the season. The Deacon's and Hanson are the best summer lettuce.

Radishes, especially the turnip-rooted varieties, are easily grown, grow very quickly and are a wholesome green vegetable.

Peas are one of the earliest green vegetables and quite easily grown. There has been a great improvement in varieties within a few years. Henderson's Early is a very good and productive smooth pea; the best for early planting. The Stratagem is the

best wrinkled pea we have tested. There can be but little excuse for not having peas, for they are one of the easy vegetables to can for winter use.

Beets are another garden vegetable that has been very much improved in a few years, and can be had the year through with little trouble; are hardy, and like spinach and peas can be sown quite early, and by making good selections and planting several times in the summer, can be had fresh and tender. No dinner is perfect without beets, and no vegetable hash for breakfast is good without beet in it, in my opinion. It is one of the garden vegetables not properly encouraged by our Horticultural Society. The Eclipse and Edmands are the cream of the beet families, of my acquaintance, for early and medium. Dewing's is a nice winter beet when sown late and a good all around beet.

Parsneps need to be sowed early and are a garden vegetable of great value in the family. The Hollow Crown is the best flavored, but the Student, or some improved short variety, is better for spring use if wanted to leave them in the ground. There is a chance for improvement in parsneps, and a premium offered by our Society for a half long seedling would be a wise thing in my opinion. I heard one of our most conservative members say he would pay fifty dollars for a pound of such seed.

Salsify, or vegetable oyster, is a neglected vegetable; is as easily grown as parsneps and should be in every garden. There are many months in every year that have no *r* in them, and our Puritan or some other ancestors have long since prohibited the use of real oysters in those months. I never have known a family that some members did not wish oysters were good the year round, and salsify comes in to fill the place. It is easily prepared for the table, and universally liked by the people. It is a rich, healthy garden vegetable, can be kept in the cellar or ground over winter, and until the fresh grown roots are ready for use.

Turnips can be put into the ground early and are a vegetable easily grown, and profitable to raise to sell if the grower is an artist. There are some new varieties that come along very fast.

The Early Milan is the best early, and some of the globe purple tops, and White Egg varieties for late, to raise as a second crop after early peas or potatoes. There is some demand for the Golden Ball, also an English or fall turnip. The Sweet German, French or Cape, and Yellow Rutabagas are winter turnips, and need most of the season to perfect their growth; but if one has the proper soil and education they are a very profitable garden vegetable to grow. No garden is complete without a few Fall and Cape turnips.

For early *Cabbages* and *Cauliflowers* the seed needs to be planted in the window garden or hot-bed. There are many new and improved varieties, of which Henderson's Succession Cabbage, and Snowball Cauliflower, are good enough for any one. There are a few small pointed cabbages that grow very quickly. The Express and Extra Early Etampes are the best; but unless one is very fond of cabbage, he can't afford to grow them in a small garden. The Borecole, or Kale, is a species of cabbage used by the German population as greens, is very easily grown and kept, and when more of the community are educated to eat it will be a profitable crop to raise. Brussels Sprouts, another member of the cabbage family that is raised as a profitable crop in some localities, is too aristocratic for common people to bother with.

Endive is a vegetable but little grown in this vicinity, but is worth a place in any one's garden, if a person appreciates good salad, or wants a nice plant to garnish with. The green curled is best.

Parsley is another vegetable not much grown, but worthy a place in all gardens. It is one of the good things that few know about. For garnishing, or seasoning soups, it has few if any equals. It grows slow at first, but has a root like the parsnep, and when well started is easily managed. It may be grown in a flower pot, or box, in the house in winter.

Of course all must have a small bed of *Carrots;* they will be wanted for soups if nothing else. They are easily grown, are a large family; but some of the newer one-half long or short-horn are best.

Celery is a garden vegetable that has made wonderful strides in the past ten or fifteen years. Whether it has kept pace with the education of the American people is doubtful, but it has contributed more than any vegetable towards it, in my opinion. It is a green vegetable for winter use, and is eaten in its raw state. For the tired and over-worked American, it is a nerve panacea; and as it is not relished, or eaten, after it gets to be *second-hand*, it is a safe accompaniment of any meal. If people don't sell their good taste to fashion, but place the stalks on the table entire, with their beautiful leaves overhanging the dish, it makes a bouquet that will cheer the weary, and stimulate all the good there is in us. It is one of the vegetables when good, and well grown, that is all that most appetites desire of itself. Some will demoralize it, by eating it with salt; others with olive or some other oil; but the large majority of people find it good enough, as it comes from the garden, or storage pit, if it takes a thorough bath on the way to the table. There have been many new varieties introduced within a few years, and like all other *new* vegetables some very few have proved better than any we had before in some respects.

There is no celery that I have grown that is better than the Boston Market when it is well grown; but of late it requires more skill than the ordinary person possesses.

The White Plume is easily grown, and for early is very passable; not quite so good as Paris Golden, another variety that is easily blanched, and good for early. The Giant Pascal is the best of the new-comers for late, more hardy than most of the good varieties. Were it not for the vast amount of fungi in the air and ground, it would be an easy matter to grow celery; but thousands of people, after working hard all the season to get their celery grown, see it blight and rot. It seems too bad that we are obliged to eat celery grown in Michigan, a good deal of the year, but the fact remains. Celeriac or turnip-rooted celery is more easily grown and kept than celery, and is better for seasoning meat and soups.

Water-Cress is a desirable vegetable, can be grown in any garden soil as easily as pepper-grass, and is a very nice plant

for salad. It is grown under glass the same as lettuce, or in the open ground.

Most people like to grow their own sweet herbs, peppermint, thyme, sweet marjoram, summer savory, sage, etc. It takes but a small piece of ground, and they are ever so much better than can be bought at the apothecaries.

Sweet Corn is a garden vegetable that is eaten by as many people as any vegetable; and if the variety is good, and it has been well grown, it makes a vegetable that is nutritious and wholesome. As a farmer's son I knew nothing of this superb vegetable, but as a gardener I soon became acquainted with it. We children used to boil and roast field corn, and thought it was good; it was, and the only green vegetable we had as children. You think I was a child in some heathen land, perhaps? but I was not. My birthplace was in a good farming town in Bennington County, Vermont, and this statement is not more than forty years old. I presume you might find many good farms, next summer, were you to journey forty miles across the country, in any direction from Worcester, where there was not a hill of sweet corn raised, and never had been. I feel proud to state that I raised the first sweet corn, tomatoes, and celery ever grown in my native town, and that I learned how to raise and eat them, in this city, on the farm of Stephen Foster. There are many good varieties of sweet corn, but if I were asked for the best three for early, medium, and late, I should say Crosby's. Plant it once a fortnight, commencing when the apple trees are in bloom, continuing till July 4, and you will have good sweet corn all summer and until frost comes. If you choose, you can dry or can it, and have sweet corn all winter.

Beans are a good vegetable to have, either to go with the corn for succotash, to eat cooked in the pods, as string beans, or boiled and served with cream or butter as a vegetable for the day. If you want a very nice dish in the winter, shell the beans while they are tender and green, then dry them, and you can have it. Canned green beans are better than ripe ones. The wax beans are best for string, and the Horticultural, bush, or

pole, striped, and white, are the best we can raise for shell beans. If our seasons were a little longer I should recommend the Lima; but unless some of the new Dwarf Limas prove of value we can't many of us indulge in home-grown Lima beans, except on Sundays, in the late fall.

Rhubarb is one of the connecting links. It is not a fruit, but is used as a fruit; and where sugar can be afforded there will be found rhubarb sauce and rhubarb pies, when it is the off apple year. Some prefer it to apple any time; for a change it is certainly a nice thing to have. It can be grown in some corner of the garden, and when once established is no trouble, as it lasts many years. It is a good plan to take up the roots and divide them occasionally.

Asparagus is another vegetable that can be had with but little trouble; it is one of the first, coming up so early that the Spring frosts will kill it, if it is not covered on cold nights. Planted in the garden, it will live and thrive with little care for many years.

Of course you will have a small bed of Onions. White Portugal are the best for early and medium, and Yellow Danvers, the *Globe* varieties, for winter.

No garden is complete without a few *Cucumbers*, so we must all try every year to grow some. There are a good many reasons why we ought to—mainly, so we may know how much trouble and vexation it costs. The white spine and long green are the best varieties.

A few *Squash* seeds should be planted. If they come up, and we are very watchful, we shall see them; but the chances are we shall not. Some striped beetle, or platoon of beetles, will charge on them as soon as they dare to leave their earth covering; if not, the vines may grow and run over and destroy lots of our other nice things, living and rioting until the squashes begin to gladden our hearts; and then the black or trout bug, as he is called in some localities, will attack them and they will wither and die.

Melons are a most delicious garden vegetable, and will bear a better acquaintance than most people have with them. The

vines have fewer enemies than cucumbers and squashes. By using the unripe ones in the fall for sweet pickle—and they make the best—are as profitable as any vegetable grown. It is a good plan to plant the seed early in hot beds, in an inverted turf; later, remove turf and plants to the garden. The Emerald Gem and Christiana are the best salmon-fleshed, and Burpee's Nettled Gem and the New Surprise are the best green-fleshed Cantaloupes.

The Surprise is the cream of yellow-fleshed melons, when it does well, but not so sure as the others.

I have often wondered why our Horticultural Society did not offer more and better premiums for Cantaloupe melons. They are universally used for several months, and they are the cream of the garden vegetables.

Watermelons are not as desirable for our climate, though they can be grown with a little trouble. The Hungarian Honey and Phinney's Early are the best.

Okra or Gumbo is a vegetable not much grown or used, but is a desirable addition to our collection, and should be set out and grown the same as peppers.

Okra is a valuable vegetable, either green or dried for winter use.

We must try to grow *Egg Plant*, shall probably fail, but have got used to that by this time.

Never mind, we have a garden vegetable saved for the last, that is universally grown and eaten. Of course *anybody* can grow it, and it will be good every time, for its name is *Potato*. Its pedigree dates back so far that for want of a better Christian name, it was called Irish to distinguish it from the sweet or southern potato. It belongs to one of the largest families of any of our vegetable friends, and is both lowly and aristocratic in its connections. I know of no other vegetable so plenty, and so universally poor, as the potato. A large part of the potatoes eaten in our city are brought from a long distance, many of them across the ocean. There is no vegetable that changes quicker from good to medium, or poor. As a proof, expose a few nice potatoes to the *light* for two or three days,

and then test them. I wonder how many of my hearers could guess within hundreds of bushels how many potatoes are wasted and consumed in our city every day. The swill gatherers could judge best of the waste. Twelve bushels to a thousand inhabitants, would be a fair estimate, and that would give the moderate sum of 960 bushels at an average cost now of $1.20 a bushel, making nearly $1200 a day for potatoes.

Now, Mr. President, Ladies and Gentlemen, in my opinion there are but two other things used in large quantities in this city, that are worthless to those who use them; and those are tobacco and rum.

No good farmer values potatoes at more than 20 or 25 cents per bushel to feed stock; but it is a fashionable habit we have of using potatoes, so they must be grown. The very best variety is the early Beauty of Hebron. There are a few of the newer varieties, both early and late, that are worthy of a place in every garden. The early Essex and Charles Downing are giving universal satisfaction. According to government statistics, the potato crop exceeds all other crops excepting fruit and butter, reaching more than $125,000,000 in a single year.

The question of the day will be incomplete without a word on fertilization and vegetable hygiene. As great as have been the improvements on vegetables in a quarter of a century, the advance in the knowledge of fertilizing the soil, to grow them, has been greater; and we hope that the interest awakened in the prevention of disease of vegetables will continue. There was a time within the memory of the small boy, when it appeared as though many of the vegetables we prize the most, were doomed. The potato-rot seemed to have the grip of a giant, and many people gave up raising them; but thanks to our experiment stations, preventives were found in the new way of fertilizing with phosphates, and other special manure, and spraying the vines with a copper preparation at the same time as they were sprayed to kill the voracious larvæ of the potato bug.

Just as celery came to be almost a necessity a species of fungi attacked its leaves, and it disappeared from the gardens

by the thousands of dozens, in a short space of time. But patient study will very soon enable those versed in vegetable hygiene to counteract, or destroy, this new vegetable enemy.

There was a vile looking slug appeared on some of my celery ground two years ago, and he has defied all safe preventives as yet; but as we seem to have the entire stock in the country, his days of marauding will be short.

The pioneer who had the courage to say, that the *quality* of a vegetable could be changed by feeding it, was considered a crank if not a fool; but those who are successful in raising vegetables that approach perfection, are the ones who understand the art of feeding them. There are no two that require precisely the same fertilizing. Some need a great amount of potash, as the potato, others almost live on Nitrogen, like spinach, others on Phosphoric Acid, like corn, and so on through the whole list.

It may be necessary to follow a rotation in the cultivation of garden vegetables, putting beans next year where we have potatoes this, peas where we had parsneps, and strawberries where we had almost anything but potatoes. It is believed by some that because strawberries are a potash plant one will not follow the other to advantage. That has not been my experience. A good piece of land for any class of plants, can be kept in condition to grow them, as long as the cultivator proves himself smarter than the insects that infest them.

It is said that cabbages cannot be grown on the same land two years in succession, but we have plenty of evidence where many crops have been grown in succession without a failure. Peter Henderson had a piece where he grew cabbage six years in succession and had fine crops every year. I have seen fields in New Jersey where cabbage and cauliflower had been grown for 12 successive years without a failure. They used wood ashes and marl for fertilizers, and trimmed the roots of the plants when set out to avoid club foot.

I have given a short space to a few phases of this very important question, and am in hopes that the discussion to

follow will stimulate the growing of garden vegetables in our vicinity, so that every person can have fresh grown vegetables every day in the season of them, for they are God's best gift to man. Whittier says:

> Give fools their gold;
> And knaves their power;
> Let fortune's bubbles rise and fall;
> Who sows a field, or trains a flower,
> Or plants a tree; is more than all.

12th March, A. D. 1891.

ESSAY

BY

MRS. FANNIE A. DEAN, OF EDGARTOWN.

Theme:—The Columbian Discovery—Its Benefits To Horticulture.

As we approach the four hundredth anniversary of the Columbian Discovery of America, it may not be unwise to consider its direct and indirect benefits to that department of industry in which you who are gathered here to-day, are especially interested.

It is not our purpose to discuss any question as to who first came to America, whether it was Heeli the Chinese, Ericson the Norwegian, Madoc, the Prince of Wales, or Columbus the Genoese; but we do affirm that it was through the voyages of the last-named and distinguished individual, that our country became well-known to the other nations of the earth.

The American or Indian had not much idea of horticulture. History tells us that his wife dug a few roots, or cultivated a little maize, the latter of which she prepared for food by crushing with the stone corn-cracker, or pounding in the stone mortar. The indolent and erratic disposition of the Indian was not favorable to landscape gardening, nor to the less ornamental work of the kitchen garden.

The forests, in all their stately grandeur were here; the wild flowers, in all their luxuriance, nestled at the bases of the grand old monarchs of the forest, or trailed silently over meadow and hill-slope; the feather-like Bryopsis presented as beautiful a green color as it waved under the blue sea, then as to-day, and the porphyra or purple weed reproduced itself then by

dividing, just as now. Whether under sea or sky, the great Continent of America, at that early day, contained those simples and forces which have been combined and exerted within the last four centuries, until the world has realized the vast resources of wealth and beauty which she possesses.

From the depths of her mighty rivers, from her inexhaustible mines, from the scenery of her natural parks and her thousands of lakes, and from the grandeur of her remarkable cañons and the loftiness of her mountain peaks, come forth the questions—Of what use has the American Continent been to the world? Have its inhabitants gleaned any additional knowledge, or received any benefits from us? In this paper, it is proposed, as was intimated at its beginning, to answer these questions, in regard to horticulture alone.

When we use the term horticulture, we consider it as meaning the most perfect method of cultivating the soil either for products of beauty or use. This art had been known to the inhabitants of the Old World or Eastern Continent, for thousands of years before Columbus had started on his voyages of exploration. A love of the beautiful in nature had been implanted in his soul, and the luxuriance of the tropical vegetation of the country he found so impressed him with its charming appearance that he made particular mention of it to Queen Isabella, when he wrote to her the glowing accounts of the new land.

Through the succeeding years, in the early unsettled state of this continent, not much attention was paid to aught except the cultivation of those cereals and vegetables which were required for the sustenance of nature. Different nations were sending colonies westward, each one desirous of acquiring a strong and permanent foothold in some chosen corner of either North or South America. To those lured hither first by a desire for gold, the products of the soil held little, if any, attraction. Like our own citizens of the eastern United States, who, in 1849, flocked, in so great a number, to the gold mines of California, they little realized what a variety and amount of flowers and fruit were possible to be developed from the glittering sands.

The Indians, as a race, have not progressed much in their botanical knowledge since the days before the European discovery of America. The aggregate knowledge of the doctors or learned men of the Cherokee Indians, according to the statement of Mr. James Morney who has recently spent much time in studying them, only embraces about eight hundred species of plants, and no one doctor knows the names of more than three hundred species. They have no names for even the most beautiful or noticeable flowers unless the plants are used as food or medicine. They are, as four hundred years ago, without sentiment for the fragrance or symmetry of the flowers, and yet the Cherokee Indians have dwelt in the regions of western North Carolina.

Whatever benefits may have resulted to horticulture, are found to be due mostly to the researches, industries, inventions and literature of the white men of the present century. The experiment stations in the different States for testing the peculiar conditions required for the growth of individual plants and for conducting microscopical investigations in regard to the causes which destroy them; the careful studies made by such enthusiastic botanists as Drs. Asa Gray and John Torrey; the extensive researches of such interested men as Dr. J. Triana of New Granada, who explored the flora of his native country for ten years amidst so many discouragements from his own government, and who then established himself in France for the purpose of describing his collections; and the experiments tried by hundreds of horticulturists, show the awakening of this American people to an earnest desire for acquiring knowledge and then communicating it to the world at large. While we may have imported plant specimens, other countries have been, and are importing from us, until they have already naturalized our elm, captured the Peruvian cinchona, adopted our Kalmia as one of their most highly prized plants, and have even disputed the American origin of the pine-apple.

Our facilities for research are constantly increasing. In a late number of Lippincott's Magazine, a writer mourns that we have no American Kew, and earnestly insists that New York

City shall be the first to establish similar gardens here, and not let Philadelphia, Boston or any other city get ahead of her in this respect. He certainly could not have learned that, second only to the Royal Botanical gardens at Kew, will be the Missouri Botanical gardens begun by the late Henry Shaw, and for whose completion and maintenance he has left a legacy of three millions of dollars. These gardens if completed will give a chance for study and research which will supply the long-felt need of horticulturists.

The explorations of Mexican and other adjacent regions early in this century, resulted in great additions to the number of varieties previously shown in Europe, of one kind of flower alone—the cactus. In 1796, only twenty-nine species had been found; in 1850, 670 species were known, and now over 1000 species are distinguished. Not only have our own botanists made these reseaches but celebrated travellers like Kalm and Michaux, Jussieu and Humboldt in earlier days, and Wright, Brewer and André, in the present generation have made expeditions to America for the sole purpose of collecting specimens of the new plants, on this side of the Atlantic. Will such men as these dare to say that America has accorded no benefits to the horticulture of the world?

The herbarium of Humboldt alone which contained 3500 new specimens shows that the discovery of the West Indies, in 1492, certainly opened new and rich botanical store-houses.

Horticulturists of the present day will not soon forget the sufferings and hardships of the late Charles C. Parry as he crossed the California Desert from San Diego to the mouth of the Gila River, and unfolded to the world the floral treasure of the western and southwestern parts of the United States.

On authority, it is stated, that the number of species of flowering plants and higher cryptogams indigenous to the United States is twelve thousand, and that that is practically the number for North America. Adding to these the known indigenous plants of South America, and imagining what may be reserved for us to discover, in the future, we may not hesitate to conclude that we have added no mean contribution to the world's flora.

Not only have the results of the researches in America become well known to the world, but still farther reaching are the results of the industries of the American citizens. Brain and muscle have united, and have succeeded in giving to the world the fruits of our industries. The market gardens, adjacent to our great cities, the fruit industries of the south, and even that unique horticultural industry of southeastern Massachusetts and New Jersey, cranberry growing, show, in a limited degree, what is being accomplished; but when we consider the horticultural possibilities of California, how can we begin to realize to what extent these industries may be carried?

In 1888, 1,250,000 boxes of raisins were produced in California. Every year, the quality of these raisins has improved until now they are considered to be sweeter than those sent from Spain, and will keep so for twice as long a time. During the last year alone, the value of the horticultural products—wines, fruits, vegetables, and flowers—is estimated at thirty-six millions of dollars, and it is affirmed that ten thousand tons of fresh, dried and canned fruits have been sent from there by rail, the past season, not including those sent by express. More fruit trees were to have been planted there last winter than ever before. The largest olive-oil factory in the world has been built in Sonoma County, California, recently, at an expense of a quarter of a million dollars, and the company are planting seven hundred acres of olive trees. Now that the growing of olives is to be engaged in as a special industry, and to so great an extent, California is indeed destined to surpass the southland of Europe. Those who perform manual labor, are apt to ignore the thought labor, and often do not understand the physical exhaustion it produces; but there is an industry of mind, without which there would be seen to-day but little improvement upon the old ways in which our grandfathers worked. It is by the industrious thought of the few progressive minds that the work of the many has been wonderfully lessened. The brain of the manufacturer who utilizes the products of the great cotton gardens of the South, and the intelligence of the members of a corporation who establish in the West the greatest flour-mill in the world, are potent factors in extending the

benefits so lavishly bestowed upon us. He who first thought of adapting the gum of the rubber plant so well known in South America, scarcely dreamed of the uses to which it would be applied. To be sure, there were rubber trees and plants in the East Indies, but it took the continued thought, for many years, of an American Goodyear to discover the process of vulcanizing. How could we do without this gum to-day? The physician and the mechanic, the manufacturer and the horticulturist alike use it. It assists in weaving our garments, protects us from the storms, cans our fruits and files our business papers. Its uses are too varied and numerous to be recounted here. Its commercial value is great. When we read of the gigantic schemes of capitalists to buy up the whole rubber crop of Para alone; when from three to five millions of dollars are raised for this purpose by English and American operators, we get a glimpse of the value of this plant which has been made of so much importance by the unremitting energy of an American mind. A simple illustration of the result of industry can readily be seen as we note the difference between the old-time flower garden of our grandmothers, refreshing as it was with its redolence of pinks, hearts-ease and roses and the well-planned parterres of to-day.

Last summer, curiosity perhaps, prompted me to make a call upon a lady one hundred and one years of age. As we drew near her home, we saw her busy at work in her vegetable garden. Clear in intellect, she soon recognized one of our party as the grandchild of an old friend of her youth. As we left, she took us to her flower garden, and gave us a few blossoms as a souvenir of our visit. Here was horticulture in its simplest form, but it rendered happiness to an old heart, nevertheless.

On arriving at Boston, a day later, the public gardens were decorated, in their holiday beauty, to greet the Grand Army of the Republic. All that art and modern knowledge could contribute were lent to give cheer to the thousands who should be in the city on that week. In a few hours we were carried from the early days of horticulture, in all their primitive simplicity,

to the present time so full of the results of the industry and civilization of the people. What America had accomplished in less than a century, was fully exhibited in these contrasting gardens.

Some say carelessly that America has no gardens to be compared with those which the Old World has possessed for centuries; but they do not just here allude to our comparative youth in civilization. They forget that America has given them, in all their wonderful beauty, natural gardens which they would gladly be willing to equal. They forget the flowers of Mexico which grow in such richness and profusion, and also that every variety of the edible fruits of Europe grow spontaneously there; they forget too that, owing to the fact of there being more than one crop every year, every kind of the garden vegetables known to Europe, can be found in the markets of the capital of Mexico, throughout the year; they do not remember the magnificent gardens of Montezuma at Chapultepec, nor the famous Dungeness garden with its twelve acres devoted to tropical fruits and flowers which was so unfortunately burned during the civil war, but which is now being reclaimed; they ignore the roses of California and the indescribable splendor of the wild flowers of Guiana, including the gorgeous Victoria Regia.

The extensive gold, silver, copper, coal, diamond and other mines of our great continent, North and South, are bringing to us the capital with which others, like Vanderbilt, will be enabled to lay out landscape gardens, and besides these, gardens especially for fruit and flower that shall excel in magnificence the wildest dreams of the Eastern horticulturist. But it is to be remembered, that it is by our industry that we shall collect and cultivate plants, or chisel the marble or granite for their ornamentation.

It is to the American men of the present century mostly, that we owe those inventions which have made agriculture and horticulture both, a pleasure rather than a drudgery. It took a Robert Fulton to give us a steam-boat, by means of which the products of one section of country can be transported easily

to another, or of our own country to foreign lands. By the invention of the steam-boat, horticulture has been made a profitable as well as an ornamental occupation. Horticulturists of different countries can now readily hold international conventions where subjects of interest and importance can be discussed, and we can visit with ease, the far-famed gardens of the East, while but few ventured to cross the ocean and seas, a hundred years ago. The botanist, in a two months' vacation, accomplishes more than could have been foreseen by Fulton himself. The steamboat produced a revolution which has shaken the whole civilized world; but American genius has since condensed the steam and adapted the steam-engine in a multiplicity of ways that have been of the greatest aid either in the cultivation of plants, or in their manufacture into articles of use.

Great philosopher as was Benjamin Franklin, he did not anticipate the effects of his discovery, as he held the kite string so that the lightnings of heaven might flash upon it; but a Morse has invented a telegraph that enables us to interview an authority on horticulture in France or England almost as readily as we would converse with a neighbor. By the telegraph, we can order our Sevillian oranges, or ascertain the price of Italian olives; in fact, the telegraph reports to us the prices current of all our vegetables and ordinary fruits. Nothing has so united the world as the telegraph, and placed the lovers of flowers and fruits so near each other. With its 1,680,900 miles of wire on land, and its 112,740 nautical miles of submarine cable, is there any reason why we should not acquaint each other with our latest observations and progress in this art of horticulture? There has been much discussion of late about the inventor of the electric motor and nearly all concede the honor to Davenport, also an American, but give to Morse the credit of the invention of the recording telegraph.

It has taken a Bell to construct the telephone that we might gather from our own countrymen facts which may affect our domestic commerce in fruit or vegetable. With the electric light, we transform our landscape gardens, or our public parks

into a fairy-land more bewildering and beautiful than the fantasies of a Rider Haggard, or even the visions of a Don Quixote, could have conceived to be possible. Not satisfied with these, nor with the processes of forcing the growth of plants, already known, we experiment at Cornell University, and other places to find how much power electric light contains, and may be made to exert for this purpose.

Edison, the electrician, has recently devised a method by which the utterances of a public speaker, together with an exact representation of his bodily presence, may be given to an assembly at any distant point. Let us apply this invention to horticulture, and we may see the photographs of plants at distant points, and be saved the expense of a journey, to examine or purchase them. It is yet an unsolved problem because of its recent application how far electricity may benefit horticulture. Should the motor supplant steam power, and electrical engine supersede the steam engine, as some have prophesied, we shall realize, more fully, its power over nature.

Those who are actively engaged in horticulture, have observed the numberless inventions which tend toward lightening the work of the present century. Labor-saving machines, in almost all departments of their work, are giving them an opportunity for reading and recreation which their ancestors never enjoyed. These inventions have been sent to different parts of the world, until machinery is an important export. Improvements in tools for the horticulturist, improvements in greenhouses and methods of heating and ventilating them, improvements in fertilizers and methods of irrigation have led to wonderful results. As a continent, we are not yet fully developed, but we are progressive. As we read the histories of many of the countries of South America, we find the fact stated that one plant or another would be of profit, were there enough laborers to care properly for them, or more labor-saving machines. South America then is full of resources and capabilities, and when more of the inventions of North America together with something of the Yankee energy shall be supplied to her, time only will reveal the increased benefits she will

bestow upon horticulture. You who live in a city like Worcester, which may well boast of its variety of manufactures, and from which so many practical inventions have been sent out to the world, whose railroads diverge in every direction, and which boasts of a Horticultural Society over half a century old, are especially calculated to appreciate the influence upon the world of the American aids to horticulture.

In comparison with the advantages resulting from the researches, industries, and inventions of our country, our literature does not hold an unimportant place. It is said by those competent to judge, that the works of foreign authors upon subjects connected with the garden, or upon horticulture generally, are better than ours, but that our books upon special subjects pertaining to, or connected with horticulture, are far more thorough and practical than theirs. So we may conclude from this, that we have, in a short life, benefited other countries, in this respect, as much in proportion as they, in their longer life, have aided each other. With these written volumes and her publications devoted strictly to the subject, like "The Garden and Forest" or "American Garden," with her scientific works, many of which are so closely allied to this art, the published records of horticultural societies and the bulletins from experiment stations, America is giving a literature which is of inestimable value both to the lover of the garden, or to him whose living depends upon its products. Wise supervisors of schools and far-seeing editors of children's magazines are striving to interest the youngest readers throughout the United States, in nature and especially in plants. Last spring, a child's paper contained an offer of a reward to any boy or girl who would collect, between the first of May and the first of September, fifty kinds of native flowers, and send a list of their names. Some of these children learned more than just the names; they found out when they blossomed and their habits. We cannot measure the extent of the influence that will be felt and exerted by the children of our own country by their early education, and this influence will extend to other lands as well.

Children like novelties; and where will they find them more

continuously than in planting the seeds and watching their growth and the beautiful blossoms and fruit which they produce? As the child becomes a man, will he ever lose a love for the beautiful pictures which the garden places before him, and which are so great in number, and varied that a life-time is far too short a time in which to view them all? With a Bryant to sing of "The Planting of the Apple-tree," a Lowell to write an ode to the dandelion, and a Whittier and Longfellow to charm us with their inspirations drawn from the flowers, and a Mary Dodge to remind us of beautiful "Blossom-time" when the flowers are "wreathed on every bough and branch, or falling down in showers," we give the influence of poetry, the American poetry of horticulture to the world.

Not remotely connected with our literature, is the thought that many of our greatest minds occupied perhaps in far different business for the most part, have shown themselves lovers of horticulture. Not unlike Luther who always kept a flower in a glass upon his writing table, and when waging his great public controversy with Eckius, kept a flower in his hand, was the late George Bancroft. Historian that he was, and engaged also in public life, one can never think of him but that he associates him with his roses at Newport. Nor can we think of the sermons of a Beecher, without remembering his love of the wild-flowers and particularly the trailing Arbutus.

Many of our greatest public men, like Washington, have taken time to plant the ornamental trees, or look after the floral adornments of their homes.

With North America containing 8,073,000 square miles and South America with its 7,316,000 square miles, Columbus bequeathed a garden large enough to satisfy the rapacious yearnings of the Eastern World. Within its limits, are found metals and minerals valuable enough to recompense its gardeners, and native flowers and fruits in sufficient abundance for the thousands of emigrants to our lands. How, in the exposition so soon to take place, can we show to the world, what benefits we have conferred upon her horticulture? Shall we show her simply our herbariums and samples of fruits and flowers, with-

out giving an idea of the methods and aids used in producing them? Shall we not take pains to exhibit, in some way, the power of our modern inventions and their application to horticulture?

We are not disposed to discuss the political side of horticulture, if it has one; but we fail to see that any benefit will accrue to horticulture when bills are passed which exact duties upon plants, bulbs or seeds of any kind. If we cross to the other side of the Atlantic and purchase a few plants, must our trunks be seized and our smuggled flower-germs be held for duty? America can afford to be more generous to her citizens than to let any country within her boundaries demand pay for the importation of a rare flower.

A question now of moment to the horticulturist, is that concerning the protection of the original growers of new varieties of plants. Legislation upon this subject might result in practical benefits. As every man has a right to have his own invention patented, so, it would seem, one who has spent months in studying the development of some new tint or form in a flower, and in originating ideas which should culminate in that new flower-creation, has a privilege to ask for protection in his rights. In this way, more thought might be directed and from the encouragement obtained, more zest imparted, to the studies required in order to attain to perfection in the horticultural art.

In this recent civilization of ours, we have overlooked, perhaps, the fact that it is to the horticulturist that we are indebted for much that beautifies the home, and refines and elevates the character. The United States lavishly use the flowers; some maintain that flowers are used for more purposes and in greater profusion than is known elsewhere. However that may be, the fact is true that the home influence of America has been exerted unreservedly for horticulture, in its commercial interests; and following in the footsteps of the adventurous Genoese, in his admiration of flower or tree, we send back to the Old World the messages of beauty which are borne in to our souls from the petals of the flower, or from the leaves of vine or shrub.

The Columbian Discovery then has given to the world benefits which cannot be overlooked. It has made of horticulture a broad rather than a limited art, it has instructed the older governments scientifically as well as practically. It has opened wide her storehouses from Cape Cod to Puget Sound; from the Arctic shores to the Cape Horn of South America, we have withheld nothing that would aid in research or industry. With a record of but four centuries, we are fast approaching the hour when no one will think of us as new, but as old, because results have been attained so speedily, and so numberless have been the benefits we have conferred upon the world's horticulture.

19th March, A. D. 1891.

ESSAY

BY

OBADIAH B. HADWEN.

Theme:—Hardy Flowering Shrubs and Plants.

It is not to be expected that one who has devoted the major portion of his life to the sturdy pursuits of the farm, can have found time to become skilled in the knowledge or the cultivation of flowers adequate to render an elaborate consideration of the subject. But nature has signalized and cultivators have brought out such an extensive variety and wealth of flowers, it has seemed to me that they are not sufficiently appreciated and enjoyed by the general public, and I venture to call attention to the subject from what may be termed the intermediate standpoint, in which every one having the slightest taste or love of flowers may safely grow some of them in their respective homesteads or premises by the way of embellishment or ornamentation. By their cultivation we may find relief from daily cares; we are filled with novel sensations induced by each flowering plant. It is by the thought and attention that is required that we draw the charm from familiar flowers and these should be within our knowledge, both of names and habits. It is useless for one to expect the full rounded out luxuries of life without the love of flowers, and their cultivation should be taught and obeyed as the Ten Commandments.

In the avocation and pursuits of Horticulture we learn to produce flowers that are gratifying to both simple and cultivated tastes, and which go far to fill up the enjoyment of rural life. To plant and grow a few flowers about the homestead

tends to educate and gladden the eye, to refine our better natures, and we grow to appreciate as our knowledge increases, for they are equally gratifying to the young and old. They soften the arduous day of toil in all pursuits of life, and crown those who grow them plentiful and well; broadening and improving the mind and educating the eye to appreciate the more beautiful in nature in its most comprehensive and delicate sense. Flowers embellish, decorate and charm our homes and immediate surroundings in due proportion to the care and skill devoted to their cultivation. Of late years we have the world to select from, giving variety adapted to all situations, either climate or soil; and with the hybrids annually produced by skilled cultivators, our interests are being constantly renewed with new kinds and coloring to the already vast collection found worthy of cultivation.

In attempting to speak of the hardy flowering shrubs and plants particularly adapted to Central Massachusetts with an area subject to the climatic conditions of an altitude varying from one hundred to more than one thousand feet above tide water, we find very many that are native and also of foreign introduction worthy of cultivation. It will be practicable at this time to dwell upon only a portion of them even very briefly. Perhaps in no period since the settlement of the country has the growing of ornamental shrubs and plants in the public parks of cities, on grounds adjacent to school-houses, at railway stations, on the farms and gardens, and even in windows, ever received so much intelligent care and cultivation as at present, although our ancestors were not entire strangers to some good flowering shrubs and plants, and even then flowers were not "born to blush unseen;" they were cultivated by hands as assiduous and delicate as those of the present age who are instructed and first inspired by the worthy example of their ancestors.

The Lilac, of late called *Syringa*, was well known and cultivated years ago; the common lilac was then indispensable in every garden. We have fifty sorts now that add very much to the interest in this hardy and much esteemed class of plants—

always profuse in bloom and long-lived, and often growing to half tree size. The new tree lilac of very recent introduction comes from the most northerly section of Japan; it makes a straight, shapely, well-branched tree with large leaves; it blooms in mid-summer and has large clusters of white flowers, and although but little known is regarded as a great acquisition and is justly termed the king of the lilacs.

The Philadelphus, sometimes called Syringa or Mock Orange, is a valuable shrub for its profusion of sweet flowers. Of fifteen or twenty sorts flowering from early to late; they are especially desirable, easily grown, long lived and hardy.

The Weigela, introduced within my recollection from Japan or China, proves a very popular shrub, comprising more than twenty sorts, most of them hardy, with white and rose-colored flowers, and some with variegated foliage. It seems to adapt itself readily to all soils and a wide range of latitude.

The Spiræas, both herbaceous and shrubby, form an elegant class of plants of easy cultivation, blooming in their variety nearly all summer with a great diversity of form and color, and they are very acceptable in all grounds.

The Prunus, or flowering almonds, are very charming, early flowering plants, flowers both pink and white. The masses of bloom are always attractive and easily grown, and they are among the earliest shrubs to bloom.

Cydonia Japonica, or Japan Quince, in their variety hold a favorite rank in all gardens. With proper pruning they form a thick massive shrub; when in bloom they are unequalled for brilliancy; the fruit is ornamental, but not edible.

The Deutzia is a very charming and beautiful class of plants, flowering in June; most profuse in bloom of white and pink. There are several sorts and they are continually increasing. In my grounds they grow from seed and prove very vigorous and hardy plants.

The Exochorda Grandiflora is a comparatively new shrub from Japan; it attains half tree size and the latter part of May is covered with large white flowers. The flower buds are round, and equally attractive as the open bloom. It is the most beauti-

ful when in bloom of any shrub at the same time, and is a decided acquisition.

The Halesia, or Silver Bell, blooms in May with white bell-shaped flowers; it forms a shapely shrub and has a pretty leaf.

The Viburnum, or Snow-ball, is an old and pleasing shrub with a gorgeous wealth of white flowers. The Viburnum Plicatum, of quite recent introduction from Japan, is the most ornamental of the family; both the flowers and leaves are very beautiful; the shrub is proving perfectly hardy, and thus far free from insects, and is a decided acquisition.

Lonicera, or Tartarian Honeysuckle, are old and hardy shrubs of a half dozen sorts, with a pleasing variety of flowers, and when properly trained makes a beautiful bush, and thrives in most soils and situations.

The Altheas are fine late flowering shrubs, sometimes growing half tree size. They are kind enough to bloom when but few other shrubs are in flower, and remain in flower for several weeks; they require but little care and often are very showy.

Calycanthus is a sweet fragrant shrub; the flowers are not pleasing to the eye, but quite agreeable to the smell. It is an old shrub and when well grown is desirable.

The Hydrangeas as a class are late flowering shrubs, which are very much esteemed. The Hydrangea Paniculata Grandiflora is the most desirable, and thrives especially well about Worcester, where it is largely grown and much esteemed for its very gorgeous display of large blooms varying in color from white to pink. I have in my grounds the largest I have ever seen, and when in bloom it forms a perfect bank of flowers. It thrives best in a deep loam, retentive of moisture, and will bear liberal treatment.

The Azalea in their variety are one of the most satisfactory shrubs. The natives—commonly called swamp pinks—flower in June and July; when properly transplanted, in a moist, peaty soil, make fine, large bushes, and when in bloom are very fragrant.

The Ghent varieties afford an opportunity for a fine display of different colors of all shades; they do best in a soil composed of

peat, sand, and loam, and bloom in the later part of May and June.

The Azalea Mollis is comparatively a new species from Japan, and, after ten years' trial in my grounds, is found hardy. It also thrives and grows well; it is the earliest to bloom and makes large trusses of beautiful flowers, of several shades of color, and is destined, when more widely disseminated, to become very popular.

Of the many flowering shrubs, both native and foreign, none are more attractive the year round than the Rhododendrons. This charming shrub, after many years' trial, is now fairly established and recognized as hardy. The maximum is native, and found growing wild in some sections of the State; the foreign, or catawbiense and hybrid varieties, are found to be most satisfactory, many seedlings being brought out every season. This class of plants, when nursery grown, are easily transplanted. When planted in groups or masses nothing can compare with the gorgeous effect of their bloom in contrast with their wealth of evergreen foliage. In the preparation of the soil for the Rhododendron it should be trenched three feet in depth, and the soil should be well mixed with peat and sand and well-decomposed leaf mould, in equal parts; a heavy mulch of forest leaves should protect the plants in winter, to prevent the ground from freezing, as the leaf undoubtedly derives some nourishment from the roots during the winter season. A northerly-sheltered situation contributes to the chances of success. A most beautiful collection is found in Elm Park, thanks to the untiring zeal and foresight of Edward Winslow Lincoln.

The Kalmia Latifolia, or the common Laurel of our hillsides and pastures, is now receiving more attention and is proving also one of the very desirable evergreen shrubs; the magnificence of these plants, when receiving good cultivation, can scarcely be imagined in their glossy green leaves, shapely form, and profuse trusses of unique and charming flowers. While they are largely grown from seed in nurseries, they are also readily transplanted in their wild state, during the period from August to November. They should be taken up with a ball of earth

adhering to the roots, and planted in a well-prepared bed as recommended for the Rhododendron. In the autumn of 1889 I removed from the woods one hundred and forty-five plants and lost but six, and twenty-two bloomed in the following spring of 1890. Their deep-green leaf that never curls or flinches with heat or cold enlivens the grounds the whole season with their summer bloom, and their green leaf in winter.

The Andromedas also prove a very interesting class of evergreen plants. Andromeda Floribunda is a leafy shrub of very compact and symmetrical growth, with a profusion of flowering spikes that form in the autumn and bloom in May. Andromeda Polifolia is a beautiful little shrub, in leaf the year round. The leaves are pinkish on the upper side, and white underneath; its flowers are white, tinted with rose; they require a peaty soil, and will repay a little space and care; a deep mulching of forest leaves applied in the autumn, to prevent the ground from freezing, is one of the requisites to success, as the evergreen leaf undoubtedly requires and receives some nourishment from the roots during the cold season.

The foregoing embraces the best of the hardy flowering shrubs. Any and all of them well repay for skill and care, and will embellish any grounds. There are a large number of climbing or trailing shrubs. The Actinidia Polygama is a new one from Japan, of very strong growth. The one in my grounds is more than forty feet in height, it has both beautiful leaf and flowers, and has for seven consecutive years borne fruit which is edible. The Chinese Wistaria is much esteemed as a climbing shrub, and in favorable seasons, when in bloom, is an object of charming beauty; it does best on buildings. The Clematis in its variety has of late years received much well-deserved attention; they are all very showy, and need a deep, rich, and moist situation. The Trumpet Vine is of very strong habit and is a good climber, with a profusion of scarlet trumpet-shaped flowers. The Lonicera, Climbing Honeysuckle, has long been cultivated, giving a profusion of flowers of many shades of color; it is delightfully fragrant, many sorts are free growing, and very suitable for arbors or lattice work.

The Rose is the acknowledged queen of flowers, in its great variety blooming from June until hard frost in autumn:

> "And first of all the rose; because its breath
> Is rich beyond the rest; and when it dies,
> It doth bequeath a charm to sweeten death."

To grow Roses well requires more skill and the know-how than is required by any other class of plants, and perhaps no flowering plant better repays all care bestowed upon it. The old June roses in former years were the only class of roses found in gardens; they made large stately plants, were free to bloom, and long lived, and even now what rose can surpass the old white, when well grown? But in later years the Hybrid Perpetuals are popular, and are enlisting the ardent attention of rose-growers. Their variety is numberless, and their forms and shades of color is seemingly without end, more than enough to satisfy the most particular and fastidious, and still they continue to come. New ones are brought out every season to be tried, approved, or condemned, and the list of the best twelve or twenty-five will not remain the same more than one or two seasons. The Rosa Rugosa, recently introduced from Japan, of robust habit, its leaf free from insects; its bloom, and seed, are ornamental.

I now come to the herbaceous, bulbous, and tuberous flowering plants, some of which are in bloom from spring until checked by the severe frosts of autumn. Perhaps no class of plants better repay for the care bestowed or add more beauty and cheer to the garden. In their great variety are well adapted to either large or small plantings, the most refined and fastidious taste can be satisfied, with the large class to choose from, and with a proper selection some are suited to all conditions, either of soil or climate, affording quick returns with their varied bloom during the season.

The Tulip is one of the earliest to bloom and has been a favorite for ages; their fine form and almost endless shades of color give them prominence wherever planted:

> "Then comes the Tulip race, where beauty plays
> Her idle freaks; from family diffused
> To family, as flies the father dust,
> The varied colors run; and while they break
> On the charmed eye, th' exulting florist marks
> With secret pride the wonders of His hand."

The Tulip, when under favorable conditions, is of easy cultivation, requiring re-setting every three years — in their great variety, from early to late, covering a season of several weeks, some new ones appearing every morning, keeping ever active the interests of the cultivator. The large beds of tulips of one color produce the strongest floral feature in public parks or gardens, and the contrast of colors when in large masses always enlist the warmest admiration and interest. For private grounds, even a hundred will give a variety of bloom and charming effect during the month of May.

The Crocus is a bulbous-rooted plant of the earliest bloom and of several sorts and colors; are easily grown, and with an occasional transplanting will last for years.

The Hyacinth, a showy flower, is not as well adapted to garden culture as the tulip or crocus, as the force of the bulb, after the first season, seems to diminish; the spikes of flowers continue to grow weaker, but when new bulbs are used produce fine spikes of flowers of intense colors and highly fragrant.

Following the earlier bulbous flowers the Pæony is the most magnificent when in bloom of all herbaceous plants. It embraces a very large variety, giving the most gorgeous and pleasing effect, is easily grown and perfectly hardy. The old Double Crimson, more than two centuries old, is now and has been a favorite sort, is found in all the old gardens, and has never been equalled in its color. There are many shades of color in the different sorts, running from white to dark, and often is very delicately variegated. No flower is more conspicuous in the garden, and the leaf is attractive during the season.

The Tree Pæony is another interesting class of plants, of bushy habit; it flowers earlier than the herbaceous sorts, and when in bloom is one of the most beautiful plants of the garden. There are two classes, the single and double; both have fine flowers with delicate tints of color. They appear to be long lived but in some winters suffer from extreme cold.

The Papaver, Oriental Poppy, is a favorite in many gardens; its large scarlet flowers grown on stems three feet high are when grown in clumps very conspicuous.

The Helianthus, or perennial sunflower, is a very desirable plant, flowering in August and continuing in bloom for several weeks; they look like yellow dahlias, are profuse in bloom, and hardy and desirable.

The Anemone Japonica of recent introduction from Japan, is one of the finest of the late flowering plants; they attain a height of four feet, and are profuse with white and pink flowers on long stems, and form a conspicuous feature in the garden in autumn.

Perennial Phlox comprises a hardy class of flowers with the greatest variety of bloom, covering a period of several weeks. They require but little protection in winter, they grow readily from seed and the varieties are constantly increasing, being so easy of cultivation they are deservedly popular in every garden. The grand and extensive display in Elm Park last season was the most beautiful ever seen in Central Massachusetts, forming a perfect blaze of flowers of most gorgeous colors.

Others worthy of cultivation are Yucca Filamentosa, Iris, or Flower d' Luce, some are bulbous, others tuberous. Hollyhock, Delphinium, Cimicifuga Racemosa, Pyrethrum, Lilies (day lily, Lilium Longiflorum).

The advantage of planting hardy flowering plants wherever there is room, and wherever ornamentation is desired, is recognized by all people of any pretension to refined taste in the effective lay-out of the garden.

Hardy flowering plants in their great variety constitute the groundwork, upon which ornamental planting is chiefly based; both the shrubby, herbaceous and annuals, fulfil the mission and scope so essential to the well ordered grounds, either of extended or limited area; even a limited number judiciously chosen render a place complete and finished, the admiration of every one.

It is gratifying to notice in late years that a growing taste is equally manifest in the suburbs of cities, towns and villages, and even about farm-houses some ornamental planting is found necessary to good order and pleasant surroundings.

To learn to appreciate the variety and beauty of flowers we

have an interesting study for a lifetime; with each season comes some new beauty of form or exquisite blending of color, of all the varied tints known in nature, so widely extended is their seemingly never-ending variety, to adorn each garden, affording the widest field for labor and taste, to beautify and add charm to every spot fit for the habitation of civilized man. Men and women of all ages have been devoted to their cultivation, they prove not only a pleasure but a recreation to those engaged in all pursuits of life; they build up a sentiment alike in the old and the young, and fortunate indeed is the one who encourages the growth of sentiment and æsthetic taste in their love and cultivation, for even a few flowers, grown by assiduous care up to the highest degree of excellence. Such persons get the most out of life.

The foremost men of earlier times in our Society's history, whose portraits adorn our Hall, have rendered their verdict in favor of fruits and flowers, and in favor of the refining and elevating influence in the practice of Horticulture. Let us find opportunities by their example to carry forward the unfinished work and the objects and interests of this Society.

OFFICERS AND COMMITTEES
OF THE
WORCESTER COUNTY HORTICULTURAL SOCIETY,
FOR THE YEAR 1890-91.

PRESIDENT:

HENRY L. PARKER, of Worcester.

VICE-PRESIDENTS:

STEPHEN SALISBURY, of Worcester; GEORGE E. FRANCIS, of Worcester; H. F. A. LANGE, of Worcester.

SECRETARY:

EDWARD WINSLOW LINCOLN, of Worcester.

TREASURER:

CHARLES E. BROOKS,* of Worcester.
NATHANIEL PAINE, " "

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ON LIBRARY AND PUBLICATION:

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ON NOMENCLATURE:

James F. Allen, George E. Francis, Hermann F. A. Lange, O. B. Hadwen.
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ON ARRANGEMENTS AND EXHIBITIONS:

James Draper, *Chairman.*

Charles E. Brooks,* Calvin L. Hartshorn, Hermann F. A. Lange, O. B. Hadwen,
Adin A. Hixon, Charles Greenwood, F. M. Marble, O. B. Wyman.
Charles E. Parker, William H. Earle, H. B. Watts, J. L. Peters,
George C. Rice, Edward Hall, William H. Johnson, with
President Parker, and *Secretary* Lincoln.

AUDITORS.

Henry L. Parker, George Calvin Rice.

JUDGES.

ON FLOWERS, PLANTS, ETC.: ON FRUITS, ETC.:

William H. Johnson. James Draper.

ON VEGETABLES, ETC.:

Charles Greenwood.

* Deceased.

SCHEDULE OF PREMIUMS

OFFERED BY THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY,

FOR THE YEAR

1891.

The attention of Exhibitors is particularly called to the Rules and Regulations, General and Special.

Worcester, Mass.
CHARLES HAMILTON, PRINTER;
311 MAIN STREET,
1891.

COMMITTEE
ON
ARRANGEMENTS AND EXHIBITIONS.

JAMES DRAPER, *Chairman*,

CALVIN L. HARTSHORN,
ADIN A. HIXON,
O. B. HADWEN,
F. M. MARBLE,
O. B. WYMAN,
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CHARLES GREENWOOD,
H. B. WATTS,
J. L. PETERS.
GEORGE C. RICE,
WILLIAM H. JOHNSON.

President, - - HENRY L. PARKER.

Secretary, EDWARD W. LINCOLN,
Nos. 5 Oak and 18 Front Sts.

JUDGES OF AWARD.

FLOWERS, PLANTS, ETC.—William H. Johnson.
FRUITS, ETC.—James Draper.
VEGETABLES, ETC.—Charles Greenwood.

COMMITTEE ON NOMENCLATURE.

James F. Allen,
Hermann F. A. Lange,
George E. Francis,
O. B. Hadwen,
James Draper,
Charles Greenwood,
F. M. Marble,
Edward W. Lincoln.

*Deceased.

GENERAL RULES FOR ALL EXHIBITIONS.

A. Strict conformity to the Regulations and Rules will be expected and required, as well for the benefit of Exhibitors as for the convenience of the Officers of the Society.

B. Correct and legible names must be attached to each and every Flower or Plant entered in a class of named varieties.

C. All articles offered for premium must remain within the Hall throughout the hours of Exhibition, unless special permission for their removal shall be granted by the Committee on Exhibitions, etc.

D. All *Small Fruits* must be entered in boxes or baskets (except in the case of Strawberries or Currants, which are to be shown "*flat*"); but they may be displayed subsequently in plates or dishes, at the taste of the exhibitor.

E. No person shall take more than one premium, under the same number.

F. The Judges may correct, before the close of any Exhibition, awards made by them, if satisfied that such were erroneous.

G. The cards of competitors shall be put, reversed, beneath the plates; and the Judges of award shall be excluded from the Hall of Exhibition until the Exhibition itself is ready for judgment.

H. Competitors are expected to conform strictly to the conditions under which articles are invited. Evasion or violation of them may be reported to the TRUSTEES for future disqualification of the offender.

RULES AND REGULATIONS.

1. Exhibitions will be held on March 12, April 16 and May 21. Commencing June 4, there will be Exhibitions every Thursday afternoon, excepting July 2, until and including October 22, A. D. 1891. The hours of Exhibition will be between 3 and

4.30 o'clock. Articles offered for premium must be in the Hall by 2.15 o'clock P. M. of the days of exhibition. Between 2.15 and 3 o'clock the Hall will be in exclusive charge of the Secretary and the Janitor, who will allow no one else to be present. The Judges of Award may be admitted under the limitations of General Rule G.

2. Competition for premiums is open to all; but a discount of one-third of the amount will be made from awards to persons who are not members of the Society; and it is strictly required that all specimens offered for premium shall have been grown by the competitors, on their own premises, *within the County of Worcester*, for a period of at least two (2) months previous to the date of exhibition.

3. After the articles are arranged they will be under the exclusive charge of the Judges, and *not even the owners* will have liberty to *remove* them until the exhibition is closed; when they will be delivered as the contributors may direct.

4. No cards of a business nature will be allowed in any exhibition.

5. Where a certain number or quantity of Plants, Flowers, Fruits or Vegetables is designated in the schedule, there must be neither more nor less than that number or quantity of specimens shown; and in no case can any other varieties than those named in the schedule be substituted.

6. It will be the duty of the Judges to *exclude from competition all inferior specimens.* Also, all such *Designs* as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making Awards, will especially regard uniformity in size, symmetry of form, and beauty in color.

7. The Committee on Arrangements have power to change the time of exhibition for any article, if an earlier or later season renders such change necessary; and the Secretary is requested to give notice of one week, in some daily paper, and also at the preceding exhibition, when a change in the Schedule is proposed.

8. All articles offered for premium must be correctly named. Indefinite appellations such as "Pippin," "Sweeting," "Greening," etc., will not be considered as names. Any person exhibiting the same variety of Fruit or Vegetable, under different names, or exhibiting as grown by himself, Flowers, Fruit, or Vegetables grown by another, thereby violating the objects and rules of the Society, shall be debarred from competing for the Society's premiums until reinstated.

9. No Flowers, Plants, Fruits or Vegetables will be entitled to a premium unless they possess points of superiority; and the Judges are *strictly required* to withhold premiums if, in their opinion, the articles exhibited do not merit them; nor shall any specimen for which a premium has been once awarded, receive another during the season.

10. Competitors will be required to furnish information as to their mode of cultivation, and to present specimens, for trial and examination, if requested.

11. In all exhibitions of Cut Flowers, for competition, the use of foliage must be restricted to that of the varieties shown; and not more than three blooms, clusters, sprays or spikes, all which shall be of one color, and of one variety, shall be allowed in the same bottle, or vase, except when otherwise specified in the schedule.

12. No Judge shall award a premium or gratuity in any case wherein he is a competitor, or has an actual or resultant interest; in any such case the judgment shall be rendered by any three of the Committee on Arrangements and Exhibitions whom the Judge shall invite.

13. No Judge shall require anything of competitors respecting their exhibits, which is not distinctly specified in the schedule. No Flowers, Fruits, etc., etc., shall be put on the tables, for competition for premiums, by any person who is a judge as to the awards to be made for Fruits, Flowers, etc., etc.

14. The standard number required for an exhibit, whether of Fruits or Vegetables, will be twelve (12); unless otherwise

specifically declared. The usual limit of measure, save for SMALL FRUITS, will be a half-peck.

15. All premiums that are not claimed within three months after the close of the official year shall be forfeited to the Society.

16. The awards will be made known as soon as the cards can be filled out and placed upon the table.

17. "Downing's Fruits of America," revised edition, will guide the Judge of Fruits in his decisions upon matters at issue.

☞The judges are authorized by the Trustees, to invite the assistance of competent and discreet persons in the discharge of their duties.

FLOWERS, PLANTS, FRUITS & VEGETABLES.

A. D. 1891.

☞ The Committee on Arrangements and Exhibitions would direct the earnest attention of the Judges to *Rule 6!*

6. *It will be the duty of the Judges to exclude from competition all inferior specimens. Also, all such designs as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making awards, will especially regard uniformity in size, symmetry of form, and beauty in color.*

FLORAL. Special Rule.—In all cases where dimensions are prescribed for exhibits, the measure shall be understood to be that of the flowers solely; never admitting the basket, foliage, or any garniture of green.

Thursday, March 12.

☞ The Committee on Arrangements and Exhibitions *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

HYACINTH,—in bloom.—

No. 1.	Six plants, four premiums.....	$3 00	2 00	1 00	50
No. 2.	One plant, two premiums....			1 00	50

PRIMULA SINENSIS,—in bloom.—

No. 3.	Four plants, four premiums.....	3 00	2 00	1 00	50
No. 4.	One plant, two premiuns.....			1 00	50

PRIMULA,—ANY OTHER VARIETY,—IN BLOOM.—

No. 5.	Four plants, four premiums	$3 00	2 00	1 00	50

CINERARIA,—IN BLOOM.—

No. 6.	Four plants, distinct in color, four premiums	3 00	2 00	1 00	50

CYCLAMEN,—IN BLOOM.—

No. 7.	Four plants, four premiums	3 00	2 00	1 00	50
No. 8.	One plant, three premiums		1 50	1 00	50

ARUM (RICHARDIA),—IN BLOOM.—

No. 9.	Best collection; grown in a pot, or tub, not exceeding 16 in. in diameter, four premiums	3 00	2 00	1 00	50
No. 10.	One bloom, with foliage (the largest), two premiums			1 00	50

AZALEA INDICA,—IN BLOOM.—

No. 11.	Three plants, four premiums	5 00	3 00	2 00	1 00
No. 12.	One plant, two premiums			3 00	2 00

CUT FLOWERS.—

No. 13.	Twenty blooms (clusters, sprays or spikes in vases), four premiums	3 00	2 00	1 00	50

BOUQUET—(HAND).—

No. 14.	Not more than 9 in. in diameter, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 15. Any variety, named, gratuity.

PEAR.—

No. 16. Any variety, named, gratuity.

VEGETABLE.—

CABBAGE,

No. 17.	Brunswick, 3 specimens, three premiums	$1 50	1 00	50	
No. 18.	Red Dutch, 3 specimens, three premiums	1 50	1 00	50	
No. 19.	Savoy, 3 specimens, three premiums	1 50	1 00	50	

CELERY,

No. 20.	Six specimens, three premiums	1 50	1 00	50

SQUASH,

No. 21.	Hubbard, 3 specimens, three premiums	1 50	1 00	50
No. 22.	Marblehead, 3 specimens, three premiums	1 50	1 00	50

TURNIP,

No. 23.	Swede, Yellow, 6 specimens, three premiums	1 50	1 00	50
No. 24.	Swede, White, 6 specimens, three premiums	1 50	1 00	50
No. 25.	White Egg, 12 specimens, three premiums	1 50	1 00	50

BEET,

No. 26.	Turnip, three premiums	1 50	1 00	50

CARROT,

No. 27.	Intermediate, three premiums	1 50	1 00	50

LETTUCE,

No. 28.	Six heads, three premiums	2 00	1 50	1 00

Thursday, April 16.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS—BASKET.—

No. 29.	For the best round basket, on stand, not to exceed 15 inches in diameter, 4 premiums	$3 00	2 00	1 00	50

ZONALE GERANIUM,—IN BLOOM.—

No. 30.	Four plants, distinct in color, 4 premiums	3 00	2 00	1 00	50

CUT FLOWERS.

No. 31. Twenty vases, not to exceed 5 blooms, clusters, sprays or spikes in each, four premiums.... .....$3 00 2 00 1 00 50

HYACINTH,—IN BLOOM.—

No. 32. Twelve plants, not less than 6 varieties, four premiums..... 4 00 3 00 2 00 1 00

NARCISSUS,—DISPLAY.—

No. 33. Four premiums..... 4 00 3 00 2 00 1 00

TULIP.—

No. 34. Six pots or pans, not to exceed 12 bulbs in each, not less than three varieties, four premiums..... 4 00 3 00 2 00 1 00

APPLE.—

No. 35. Any variety, named, gratuity.

PEAR.—

No. 36. Any variety, named, gratuity.

VEGETABLE.—

HORSE RADISH,

No. 37. Three premiums..... .....$1 50 1 00 50

PARSNEP,

No. 38. (Student), three premiums..... 1 50 1 00 50

No. 39. (Hollow Crown), three premiums..... 1 50 1 00 50

RADISH,

No. 40. Two bunches (6 in each bunch), three premiums..... 1 50 1 00 50

SALSIFY.

No. 41. Three premiums..... ..... 1 50 1 00 50

LETTUCE,

No. 42. Six heads, four premiums.... .... 2 00 1 50 1 00 50

RHUBARB,

No. 43. Same variety, three premiums..... $1 50 1 00 50

DANDELION (cultivated),

No. 44. One-half peck, three premiums.. ..... 1 50 1 00 50

SPINACH,

No. 45. One-half peck, three premiums..... 1 50 1 00 50

Thursday, May 21.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

PANSY,—NO DUPLICATES.—

No. 46. One stand, one stem in a vial, four premiums $3 00 2 00 1 00 50

No. 47. Six plants in bloom, distinct in color, exhibited in pots, four premiums 3 00 2 00 1 00 50

BOUQUET,—HAND.—

No. 48. Not to exceed 9 inches in diameter, four premiums..... 3 00 2 00 1 00 50

BULBS AND TUBERS—(HARDY),—OPEN CULTURE.—

No. 49. Display, in vases (no duplicates), four premiums..... 3 00 2 00 1 00 50

HYACINTH,—OPEN CULTURE.—

No. 50. Display, in vases (no duplicates), four premiums..... 3 00 2 00 1 00 50

PELARGONIUM—(FANCY AND SHOW)—IN BLOOM.—

No. 51. Four plants, of distinct varieties, four premiums.... ..... 3 00 2 00 1 00 50

TULIP,—OPEN CULTURE.—

No. 52. Display, in vases (no duplicates), four premiums..... 3 00 2 00 1 00 50

CUT FLOWERS.—

No. 53.	Stand, four premiums	$3 00	2 00	1 00	50
No. 54.	Basket, oval, with handle, on stand, not to exceed 15 in., four premiums	3 00	2 00	1 00	50

AZALEA—(MOLLIS).—

No. 55.	For the best display in vases, four premiums	3 00	2 00	1 00	50

VEGETABLE.—

RADISH,

No. 56.	Three premiums	$1 50	1 00	50	

ONION (bunched),

No. 57.	Two bunches, six in each bunch, three premiums	1 50	1 00	50	

RHUBARB,

No. 58.	Linnæus, three premiums	1 50	1 00	50	
No. 59.	Victoria, three premiums	1 50	1 00	50	

ASPARAGUS,

No. 60.	Two bunches, three premiums	1 50	1 00	50	

DANDELION,

No. 61.	Cultivated, half-peck, three premiums	1 50	1 00	50	

SPINACH,

No. 62.	Half-peck, three premiums	1 50	1 00	50	

Thursday, June 4.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS,—DISTINCT.

No. 63.	ONE STAND—(the varieties of any species must not exceed three), four premiums	$3 00	2 00	1 00	50

No 64. One Vase,—the specimens not to be tied or wired, three premiums.	$2 00	1 00	50	

BEGONIA,—in bloom.—

No. 65. One Plant,—four premiums.....	3 00	2 00	1 00	50

IRIS.—

No. 66. Ten vases, four premiums.....	3 00	2 00	1 00	50

CLEMATIS.—

No. 67. Display, in vases, two premiums...		2 00	1 00	

FUCHSIA.—distinct varieties.—

No. 68. Four plants in bloom, four premiums.....	3 00	2 00	1 00	50

RHODODENDRON.—

No. 69. Display, in vases, four premiums...	3 00	2 00	1 00	50

AZALEA,—Ghent.—

No. 70. Display, in vases, four premiums...	3 00	2 00	1 00	50

CUT FLOWERS.—

No. 71. From hardy plants and shrubs, display not to exceed 25 vases, four premiums.....	3 00	2 00	1 00	50

VEGETABLE.—

Asparagus,

No. 72. Two bunches, three premiums.....	$1 50	1 00	50	

Cucumber,

No. 73. Three specimens, three premiums...	1 50	1 00	50	

Spinach,

No. 74. Half-peck, three premiums..... ...	1 50	1 00	50	

Beet,

No. 75. Early, twelve specimens, three premiums,	2 00	1 50	1 00	

Thursday, June, 11.

HYDRANGEA.—ONE PLANT, IN BLOOM.—

No. 76.	Hortensis, three premiums	$2 00	1 00	50	
No. 77.	Otaksa, three premiums	2 00	1 00	50	
No. 78.	Thomas Hogg, three premiums	2 00	1 00	50	

BASKET.—Oval, flat, not to exceed 18 inches.

No. 79.	AMATEUR,—four premiums	3 00	2 00	1 00	50
No. 80.	FLORIST,—four premiums	3 00	2 00	1 00	50

BOUQUET—PARLOR.—

No. 81.	AMATEUR,—four premiums	3 00	2 00	1 00	50
No. 82.	FLORIST,—four premiums	3 00	2 00	1 00	50

STRAWBERRY.—

No. 83. Any variety, gratuity,.

VEGETABLE.—

PEA,

No. 84.	One half-peck, four premiums	$2 00	1 50	1 00	50

LETTUCE,

No. 85.	Six heads, three premiums	1 50	1 00	50	

Thursday, June 18.

CUT FLOWERS,—IN VASES.—

No. 86.	For the best display (no duplicates), five premiums	$5 00	3 00	2 00	1 00	50

Digitalis. (FOXGLOVE.)

No. 87.	Display, three premiums	2 00	1 00	50	

Campanula Media. (CANTERBURY BELL).

No. 88.	Display, three premiums	2 00	1 00	50	

Dianthus Barbatus. (SWEET WILLIAM).

No. 89.	Stand, four premiums	$3 00	2 00	1 00	50

Pœonia.

No. 90.	Twenty vases, four premiums	3 00	2 00	1 00	50

STRAWBERRY.—

No. 91.	Bidwell, 24 Berries, flat, three premiums		$1 50	1 00	50
No. 92.	Bubach, 24 berries, flat, three premiums		1 50	1 00	50
No. 93.	Charles Downing, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 94.	Crescent, 24 berries, flat, three premiums		1 50	1 00	50
No. 95.	Sharpless, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 96.	Other varieties, not scheduled, 24 berries, flat, gratuity.				

VEGETABLE.—

PEA,

No. 97.	Any variety, named, one-half peck, three premiums		$2 00	1 50	1 00

Thursday, June 25.

☞This exhibition will be open to the public from 3 P. M. until 5.30 P. M.

ROSE.—

[TO BE SHOWN IN THE VASES OF THE SOCIETY.]

No. 98.	For the best twelve blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums	$4 00	3 00	2 00	1 00

No. 99.	For the best six blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums	$4 00	2 00	1 00	50
No. 100.	For the best stand of Roses, four premiums	3 00	2 00	1 00	50
No. 101.	Moss Roses. Best display, four premiums	3 00	2 00	1 00	50
No. 102.	For the best basket or dish of Roses, three premiums		2 00	1 00	50

STRAWBERRY.—

No. 103.	Belmont, 24 berries, flat, three premiums.		1 50	1 00	50
No. 104.	Jersey Queen, 24 berries, flat, three premiums		1 50	1 00	50
No. 105.	Jewell, 24 berries, flat, three premiums		1 50	1 00	50
No. 106.	Jucunda, 24 berries, flat, three premiums.		1 50	1 00	50
No. 107.	Manchester, 24 berries, flat, three premiums		1 50	1 00	50
No. 108.	Miner, 24 berries, flat, three premiums		1 50	1 00	50
No. 109.	Triomphe de Grand, 24 berries, flat, three premiums		1 50	1 00	50
No. 110.	Other varieties, not scheduled, 24 berries, flat, gratuity.				

CHERRY.—

No. 111.	Any variety, named, one-quart, four premiums	2 00	1 50	1 00	50

VEGETABLE.—

BEAN—(Snap),

No. 112.	Green Pod, one-half peck, three premiums	2 00	1 50	1 00	

PEA,

No. 113.	McLean's Advancer, one-half peck, three premiums	2 00	1 50	1 00	

BEET,

No. 114.	Turnip-rooted, 12 specimens, three premiums		1 50	1 00	50

Thursday, July 9.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at* $3\frac{1}{2}$ *o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

ZONALE GERANIUM,—IN VASES.—

No. 115.	For the best display (no duplicates), 1 truss in a vase, four premiums	$3 00	2 00	1 00	50
No. 116.	LILLIUM CANDIDUM. 12 spikes, four premiums	4 00	3 00	2 00	1 00

GLOXINIA,—POTS.—

No. 117.	Six varieties, in bloom, four premiums	4 00	3 00	2 00	1 00

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 118.	24 vases, four premiums	3 00	2 00	1 00	50

IRIS KÆMPFERI.

No. 119.	20 vases, one spike in each, four premiums	3 00	2 00	1 00	50

RASPBERRY.—

No. 120.	Cuthbert, one quart, three premiums	$1 50	1 00	50	
No. 121.	Brandywine, one quart, three premiums	1 50	1 00	50	
No. 122.	Hansell, one quart, three premiums	1 50	1 00	50	
No. 123.	Hudson River Antwerp, one quart, three premiums	1 50	1 00	50	
No. 124.	Marlboro', one quart, three premiums	1 50	1 00	50	
No. 125.	Northumberland, one quart, three premiums	1 50	1 00	50	
No. 126.	Turner, one quart, three premiums	1 50	1 00	50	
No. 127.	Other varieties, not scheduled, gratuity.				

RASPBERRY,—BLACKCAP.—

No. 128.	Davison, one quart, two premiums	$1 00	50	
No. 129.	Doolittle, one quart, two premiums	1 00	50	
No. 130.	Gregg, one quart, two premiums	1 00	50	
No. 131.	Mammoth Cluster, one quart, two premiums	1 00	50	
No. 132.	Souhegan, one quart, two premiums	1 00	50	
No. 133.	Other varieties, not scheduled, gratuity.			

CHERRY.—

No. 134. Any variety, named, one quart, four premiums..... .....$2 00 1 50 1 00 50

STRAWBERRY.—

No. 135. Any variety, 24 berries, flat, gratuity.

VEGETABLE.—

PEA,

No. 136. Stratagem, three premiums.....$2 00 1 50 1 00
No. 137. Yorkshire Hero, three premiums..... 2 00 1 50 1 00
No. 138. Champion of England, three premiums. 2 00 1 50 1 00
No. 139. Other varieties, not scheduled, gratuity.

CABBAGE,

No. 140. Three specimens, gratuity.

POTATO,

No. 141. Any named variety, 12 specimens, three premiums 2 00 1 50 1 00

BEAN,

No. 142. Wax—(snap),— three premiums..... 2 00 1 50 1 00

Thursday, July 16.

CUT FLOWERS,—SEEDLINGS OF 1891.

No. 143. Stand, four premiums.....$3 00 2 00 1 00 50

BASKET,—Round, flat, not to exceed 18 in. in diameter.

No. 144. AMATEUR,—four premiums..... 3 00 2 00 1 00 50
No. 145. FLORIST,—four premiums..... 3 00 2 00 1 00 50

PETUNIA,—One spray in each vial.

No. 146. Stand, four premiums..... 3 00 2 00 1 00 50

CURRANT.—

No. 147. Fay, 24 bunches, three premiums. 1 50 1 00 50
No. 148. Red Dutch, 24 bunches, four premiums..... 2 00 1 50 1 00 50

No. 149.	White Dutch, 24 bunches, three premiums		$1 50	1 00	50
No. 150.	Versaillaise, 24 bunches, four premiums	2 00	1 50	1 00	50
No. 151.	White Grape, 24 bunches, three premiums		1 50	1 00	50
No. 152.	Other varieties, not scheduled, gratuity.				

RASPBERRY.—

No. 153.	Brincklé's Orange, one quart, three premiums		$1 50	1 00	50
No. 154.	Hornét, one quart, three premiums		1 50	1 00	50
No. 155.	Any other variety, one quart, gratuity.				

VEGETABLE.—

CABBAGE,

No. 156.	Brunswick, three specimens, three premiums		$1 50	1 00	50
No. 157.	Henderson, three premiums		1 50	1 00	50

SQUASH,

No. 158.	Three Summer Crookneck, two premiums,			1 00	50
No. 159.	Three Scallop, two premiums			1 00	50

TOMATO,

No. 160.	Any named variety, three premiums	2 00	1 50	1 00	

Thursday, July 23.

BOUQUET,—PARLOR.—Not to exceed 15 in. from base to tip.

No. 161.	AMATEUR,—four premiums.	$3 00	2 00	1 00	50
No. 162.	FLORIST,—four premiums	3 00	2 00	1 00	50

PHLOX DRUMMONDI.—

No. 163.	Stand, four premiums	3 00	2 00	1 00	50

HOLLYHOCK.—

No. 164.	Twenty blooms in vase, four premiums	3 00	2 00	1 00	50

SWEET PEA.—

No. 165. Stand, not exceeding twelve stems in a vial, four premiums.....$3 00 2 00 1 00 50

CUT FLOWERS.—

No. 166. Stand, four premiums..... 3 00 2 00 1 00 50

BLACKBERRY.—

No. 167. Agawam, one quart, two premiums..... 1 00 50
No. 168. Early Harvest, one quart, two premiums..... 1 00 50

GOOSEBERRY.—

No. 169. One quart, of any named variety, gratuity.

PEAR.—

No. 170. D'Eté, three premiums.....$1 50 1 00 50

VEGETABLE.—

BEAN—(shell),

No. 171. Dwarf Horticultural half-peck, three premiums $1 50 1 00 50
No. 172. Any other (named) variety, three premiums.... ..... 1 50 1 00 50

CORN,

No. 173. (Sweet), four premiums..... 2 00 1 50 1 00 50

POTATO,—12 specimens.

No. 174. Hebron, three premiums.... ..... 1 50 1 00 50
No. 175. Polaris, three premiums..... 1 50 1 00 50
No. 176. Potentate, three premiums..... 1 50 1 00 50
No. 177. Rose, three premiums..... 1 50 1 00 50

Thursday, July 30.

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 178. Twenty blooms, clusters, sprays or spikes, in vases, four premiums..$3 00 2 00 100 50

BASKET,—NO LIMIT OR RESTRICTION.—

No. 179.	AMATEUR,—four premiums.... ...	$3 00	2 00	1 00	50
No. 180.	FLORIST,—four premiums.....	3 00	2 00	1 00	50

APPLE.—

No. 181. Any variety, gratuity.

PEAR.—

No. 182. Any variety, not scheduled, gratuity.

BLACKBERRY.—

No. 183.	Kittatinny, one quart, two premiums..	$1 00			50
No. 184.	Snyder, one quart, two premiums.....	1 00			50
No. 185.	Wachusett, one quart, two premiums.....	1 00			50
No. 186.	Other varieties, not scheduled, gratuity.				

VEGETABLE.—

CORN,

No. 187.	Crosby, three premiums.	$2 00	1 50	1 00	

CUCUMBER,

No. 188.	Three specimens, two premiums.....		1 00		50

TOMATO,

No. 189.	Acme, three premiums.....	1 50	1 00		50

Thursday, August 6.

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ANTIRRHINUM,—SNAP DRAGON.—

No. 190.	Stand, four premiums.....	$3 00	2 00	1 00	50

GERMAN STOCKS.—

No. 191.	Stand, four premiums.....	3 00	2 00	1 00	50

PINK—(ALL KINDS).—

No. 192.	Stand, four premiums.....	3 00	2 00	1 00	50

APPLE.—

No. 193.	Astrachan, four premiums.....	$2 00	1 50	1 00	50
No. 194.	Sweet Bough, three premiums. ..		1 50	1 00	50
No. 195.	Tetofsky, three premiums.....		1 50	1 00	50

PEAR.—

No. 196.	Giffard, four premiums.	2 00	1 50	1 00	50

PEACH.—

No. 197. Any variety, gratuity.

VEGETABLE.—

BEAN (shell),

No. 198.	Concord, half-peck, in pods, three premiums..	$1 50	1 00	50	

TOMATO,

No. 199.	Livingston's Perfection, three premiums..	1 50	1 00	50	

Thursday, August 13.

CUT FLOWERS.—

No. 200.	Stand, four premiums.....	$3 00	2 00	1 00	50

GLADIOLUS,—(DISTINCT VARIETIES),—NAMED.

No. 201.	Twenty vases, 1 spike in each, four premiums.....	4 00	3 00	2 00	1 00

SALPIGLOSSIS.—

No. 202.	Stand, four premiums.....	3 00	2 00	1 00	50

APPLE.—

No. 203.	Oldenburg, four premiums.	2 00	1 50	1 00	50
No. 204.	Any variety, not scheduled, gratuity.				

APRICOT.—

No. 205.	Any variety, two premiums.....			1 00	50

PEAR.—

No. 206.	Clapp, five premiums.. ...	3 00	2 00	1 50	1 00	50

PEACH.—

No. 207.	Alexander, three premiums	$1 50	1 00	50	
No. 208.	Beatrice, three premiums	1 50	1 00	50	
No. 209.	Cole's Early Red, two premiums		1 00	50	
No. 210.	Rivers, three premiums	1 50	1 00	50	

VEGETABLE.—

SQUASH,

No. 211.	Marrow, 3 specimens, three premiums	$1 50	1 00	50	

TOMATO,

No. 212.	Beauty, three premiums	1 50	1 00	50	

CORN,

No. 213.	(Sweet), 12 ears, of not less than 12 rows, three premiums	1 50	1 00	50	

Thursday, August 20.

ASTER.—

No. 214.	Rose, 20 vials, 1 bloom in each, three premiums	$2 00	1 00	50	
No. 215.	Hedgehog, 20 vials, 1 bloom in each, three premiums	2 00	1 00	50	
No. 216.	Cocardeau (Crown), 20 vials, 1 bloom in each, three premiums	2 00	1 00	50	
No. 217.	Victoria, 20 vials, 1 bloom in each, three premiums	2 00	1 00	50	
No. 218.	POMPON, stand, one spray of not more than 6 blooms in each vial, four premiums	3 00	2 00	1 00	50
No. 219.	TRUFFAUT, — PÆONY-FLOWERED, stand, 3 blooms in each vial, four premiums	3 00	2 00	1 00	50

GLADIOLUS,—HARDY,—LEMOINE'S HYBRIDS.

No. 220.	Twenty vases, one spike in each, four premiums	3 00	2 00	1 00	50

PHLOX—PERENNIAL.—

No. 221.	Twenty vases, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 222.	Somerset, three premiums		$1 50	1 00	50
No. 223.	Williams, four premiums	2 00	1 50	1 00	50

PEAR.—

No. 224.	Rostiezer, three premiums		1 50	1 00	50
No. 225.	Tyson, three premiums		1 50	1 00	50

PEACH.—

No. 226.	Hale, three premiums		1 50	1 00	50

VEGETABLE.—

BEAN—(HALF-PECK IN POD.)—

No. 227.	Horticultural (pole), three premiums	$1 50	1 00		50
No. 228.	Goddard, three premiums	1 50	1 00		50

SQUASH—TURBAN.

No. 229.	Three specimens, three premiums	2 00	1 50	1 00	

Thursday, August 27.

SCABIOSA.—

No. 230.	Stand, not exceeding six flowers in a vial, four premiums	$3 00	2 00	1 00	50

ZINNIA.—

No. 231.	Stand, at least twelve varieties, one flower in a vial, four premiums	$3 00	2 00	1 00	50

LILIUM SPECIOSUM.—

No. 232.	Display, in vases. four premiums	$3 00	2 00	1 00	50

MARIGOLD.—

No. 233.	Stand, four premiums	$3 00	2 00	1 00	50

BEGONIA—(TUBEROUS ROOTED)—IN BLOOM.—

No. 234.	Six plants, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 235. Any variety, not scheduled, gratuity.

APPLE—(Crab).—

No. 236.	Transcendent, 24 specimens, three premiums	$1 50	1 00	50

NECTARINE.—

No. 237.	Any variety, two premiums		$1 00	50

PEAR.—

No. 238.	Assomption, three premiums	$1 50	1 00	50
No. 239.	Petite Marguerite, three premiums	1 50	1 00	50

PEACH.—

No. 240.	Cooledge, two premiums		$1 00	50
No. 241.	George IV., two premiums		1 00	50
No. 242.	Foster, two premiums		1 00	50
No. 243.	Richmond, two premiums		1 00	50

PLUM.—

No. 244.	Bradshaw, three premiums	$1 50	1 00	50
No. 245.	McLaughlin, three premiums	1 50	1 00	50
No. 246.	Washington, three premiums	1 50	1 00	50

VEGETABLE.—

Lima Beans.

No. 247.	Large, half-peck, three premiums	$1 50	1 00	50

Cauliflower,

No. 248.	Three specimens, three premiums	2 00	1 50	1 00

Tomato,

No. 249.	Any variety, not scheduled, three premiums	1 50	1 00	50

Thursday, September 3.

☞ *The* Committee on Arrangements and Exhibitions *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS.—

No. 250.	Stand, four premiums	$3 00	2 00	1 00	50

BOUQUET—(PARLOR).—

No. 251.	Amateur,—four premiums	$3 00	2 00	1 00	50
No. 252.	Florist,—four premiums	3 00	2 00	1 00	50

DAHLIA.—

Large-flowered,

No. 253.	Twenty vases, one flower in each, four premiums	$3 00	2 00	1 00	50

Pompon,

No. 254.	Twenty vases, one spray in each, four premiums	3 00	2 00	1 00	50

NASTURTIUM AND TROPÆOLUM.—

No. 255.	Stand, not more than 12 blooms in each bottle, four premiums	$3 00	2 00	1 00	50

CLEMATIS.—

No. 256.	Display, in vases, two premiums			$2 00	1 00

VERBENA.—

No. 257.	Stand, four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 258.	Golden Sweet, three premiums	$1 50	1 00	50	
No. 259.	Worcester Spy, three premiums	1 50	1 00	50	
No. 260.	Other varieties, not scheduled, gratuity.				

PEAR.—

No. 261.	Ansault, three premiums	$1 50	1 00	50	
No. 262.	Earle's Bergamot, three premiums	1 50	1 00	50	
No. 263.	St. Ghislain, four premiums	2 00	1 50	1 00	50

PEACH.—

No. 264.	Crawford (Early), two premiums			$1 00	50
No. 265.	Oldmixon, two premiums			1 00	50

PLUM.—

No. 266.	Imperial Gage, three premiums	$1 50	1 00	50	
No. 267.	Gen. Hand, three premiums	1 50	1 00	50	
No. 268.	Victoria, three premiums	1 50	1 00	50	

VEGETABLE.—

CUCUMBER,

No. 269. Half-peck (for pickles), three premiums...$1 50 1 00 50

CORN,

No. 270. (Sweet), 12 ears, of not less than 12 rows, three premiums..... 1 50 1 00 50

PEPPER,—12 specimens.

No. 271. Squash, two premiums..... $1 00 50
No. 272. Large Bell, two premiums..... 1 00 50
No. 273. Mammoth, two premiums..... 1 00 50

Thursday, September 10.

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 274. Twenty vases, one bloom, cluster, spray or spike in each, four premiums.....$3 00 2 00 1 00 50

GERANIUM,—Display in vases, no duplicates, one truss in a vase.

No. 275. Four premiums.....$3 00 2 00 1 00 50

PANSY,—WITH FOLIAGE.—

No. 276. Stand, one stem in each vial, four premiums.....$3 00 2 00 1 00 50

DAHLIA,—SINGLE.—

No. 277. Twenty vases, one spray in each, three premiums $1 50 1 00 50

GLADIOLUS,—Display in vases, no duplicates.

No. 278. Four premiums.....$3 00 2 00 1 00 50

APPLE.—

No. 279. Garden Royal, three premiums.....$1 50 1 00 50
No. 280. Holden, three premiums..... 1 50 1 00 50

PEAR.—

No. 281.	Bartlett, five premiums....	$3 00	2 00	1 50	1 00	50
No. 282.	Lucrative, three premiums.....			1 50	1 00	50
No. 283.	Pratt, three premiums.....			1 50	1 00	50

PLUM.—

No. 284.	Fellenberg, three premiums.....	$1 50	1 00	50
No. 285.	Jefferson, three premiums	1 50	1 00	50
No. 286.	Lombard, three premiums.....	1 50	1 00	50
No. 287.	Monroe, three premiums..... ..	1 50	1 00	50
No. 288.	Quackenboss, three premiums.....	1 50	1 00	50

PEACH.—

No. 289.	Oldmixon, two premiums.....	$1 00	50

GRAPE.—

No. 290.	Moore, three clusters, three premiums..	$1 50	1 00	50
No. 291.	Grown under glass, three clusters, three premiums.....	3 00	2 00	1 00

MELON.—

No. 292.	Yellow Flesh, three specimens, two premiums...	$1 00	50
No. 293.	Green Flesh, three specimens, two premiums....	1 00	50

WATER,

No. 294.	Two specimens, two premiums.....	1 00	50

VEGETABLE.—

CABBAGE,

No. 295.	Brunswick, three specimens, three premiums.	$1 50	1 00	50

Thursday, September 17.

ASTER.—

No. 296.	Forty vases, four premiums.....	$3 00	2 00	1 00	50

CUT FLOWERS—(Basket).—

Not to exceed fifteen inches, oval, with handle, on stand.

No. 297.	Amateur,—four premiums	$3 00	2 00	1 00	50
No. 298.	Florist,—four premiums	3 00	2 00	1 00	50

CUT FLOWERS—Stand.

No. 299.	Four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 300.	Gravenstein, five premiums	$3 00	2 00	1 50	1 00	50
No. 301.	Maiden's Blush, three premiums			$1 50	1 00	50
No. 302.	Porter, three premiums			1 50	1 00	50

Apple,—Crab.

No. 303.	Hyslop, twenty-four, two premiums				$1 00	50

PEAR.—

No. 304.	Durandeau, three premiums			$1 50	1 00	50
No. 305.	Paradis d'Automne, four premiums	2 00	1 50	1 00	50
No. 306.	Other varieties, not scheduled, gratuity.				

PEACH.—

No. 307.	Crawford (late), two premiums			$1 00	50
No. 308.	Stump the World, two premiums			1 00	50
No. 309.	Other varieties, not scheduled, gratuity.				
No. 310.	New Seedling, originated in Worcester County, three premiums			$1 50	1 00	50

PLUM.—

No. 311.	Coe's Golden Drop, three premiums			$1 50	1 00	50
No. 312.	Reine Claude de Bavay, three premiums			1 50	1 00	50

GRAPE.—

No. 313.	Brighton, three clusters, three premiums			$1 50	1 00	50
No. 314.	Lady, three clusters, three premiums			1 50	1 00	50
No. 315.	Lindley, three premiums			1 50	1 00	50
No. 316.	Massasoit, three clusters, three premiums			1 50	1 00	50
No. 317.	Worden, three clusters, three premiums			1 50	1 00	50

VEGETABLE.—

CARROT,

No. 318.	Any variety, three premiums.	$1 50	1 00	50	

EGG PLANT,

No. 319.	Three specimens, three premiums	2 00	1 00	50	

CABBAGE,

No. 320.	Red, three specimens, three premiums	1 50	1 00	50	
No. 321.	Savoy, three specimens, three premiums	1 50	1 00	50	

CAULIFLOWER,

No. 322.	Three specimens, four premiums	2 00	1 50	1 00	50

Thursday, September 24.

CUT FLOWERS—(BASKET.)—

Not to exceed fifteen in. in diameter, flat, oval.

No. 323.	AMATEUR,—four premiums	$3 00	2 00	1 00	50
No. 324.	FLORIST,—four premiums	3 00	2 00	1 00	50

CUT FLOWERS—(STAND.)—

No. 325.	Four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 326.	American Beauty, three premiums	$1 50	1 00	50	
No. 327.	Lyscom, three premiums	1 50	1 00	50	
No. 328.	McLellan, three premiums	1 50	1 00	50	
No. 329.	Mother, three premiums	1 50	1 00	50	
No. 330.	Twenty Ounce, three premiums	1 50	1 00	50	

PEAR.—

No. 331.	Buffum, two premiums				$1 00	50
No. 332.	Hardy, three premiums		1 50	1 00	50	
No. 333.	Louise Bonne de Jersey, five premiums	3 00	2 00	1 50	1 00	50
No. 334.	Seckel, five premiums	3 00	2 00	1 50	1 00	50
No. 335.	St. Michel Archange, two premiums				1 00	50

No. 336.	Superfin, three premiums	$1 50	1 00	50	
No. 337.	Urbaniste, three premiums	1 50	1 00	50	
No. 338.	Washington, three premiums	1 50	1 00	50	

PEACH.—

No. 339. Any variety, gratuity.

GRAPE.—

No. 340.	Concord, three clusters, four premiums	2 00	1 50	1 00	50
No. 341.	Delaware, four premiums	2 00	1 50	1 00	50
No. 342.	Iona, three premiums	1 50	1 00	50	
No. 343.	Niagara, two premiums		1 00	50	
No. 344.	Pocklington, two premiums		1 00	50	
No. 345.	Salem, three premiums	1 50	1 00	50	
No. 346.	Wilder, three premiums	1 50	1 00	50	
No. 347.	Any variety, not scheduled, gratuity.				

VEGETABLE.—

No. 348.	Collection, not exceeding fifty varieties, four premiums	$8 00	6 00	4 00	2 00

Thursday, October 1.

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CUT FLOWERS.—

No. 349.	Stand, four premiums	$3 00	2 00	1 00	50
No. 350.	Hand Bouquet, not to exceed nine in. in diameter, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 351.	Fameuse, three premiums		$1 50	1 00	50	
No. 352.	Coggswell, three premiums.		1 50	1 00	50	
No. 353.	Hubbardston, four premiums	2 00	1 50	1 00	50	
No. 354.	Washington Strawberry, two premiums			1 00	50	
No. 355.	Other varieties, not scheduled, gratuity.					

PEAR.—

No. 356.	Bosc, five premiums	$3 00	2 00	1 50	1 00	50
No. 357.	Dr. Reeder, three premiums.			1 50	1 00	50
No. 358.	Sheldon, five premiums	3 00	2 00	1 50	1 00	50
No. 359.	Other varieties, not scheduled, gratuity.					

GRAPE,—OPEN CULTURE.—

No. 360. Any variety, three clusters, gratuity.

QUINCE.—

No. 361.	Champion, three premiums		$1 50	1 00	50	
No. 362.	Orange, four premiums	3 00	2 00	1 50	1 00	

VEGETABLE —

POTATO,

No. 363.	Six varieties (named), 12 specimens of each, four premiums	$3 00	2 00	1 50	1 00	

SQUASH,

No. 364.	Marblehead, three premiums		$1 50	1 00	50	
No. 365.	Essex-Hybrid, three premiums		1 50	1 00	50	
No. 366.	Any variety, not scheduled, three premiums		1 50	1 00	50	

CELERY,

No. 367.	Six, three premiums		$2 00	1 00	50	

Thursday, October 8.

CUT FLOWERS—(BASKET).—No restrictions.

No. 368.	Four premiums	$3 00	2 00	1 00	50	

APPLE.—

No. 369.	Belleflower, three premiums	$1 50	1 00	50	
No. 370.	Leicester Sweet, three premiums	1 50	1 00	50	
No. 371.	Sutton Beauty, three premiums	1 50	1 00	50	
No. 372.	Tompkins King, four premiums	2 00	1 50	1 00	50
No. 373.	Wealthy, three premiums	1 50	1 00	50	
No. 374.	Other varieties (named), not scheduled, gratuity.				

PEAR.—

No. 375.	Dix, three premiums	$1 50	1 00	50	
No. 376.	Frederick Clapp, two premiums		1 00	50	
No. 377.	Marie Louise, three premiums	1 50	1 00	50	
No. 378.	Onondaga, three premiums	1 50	1 00	50	

GRAPE.—

No. 379.	Diana, three clusters, four premiums	$2 00	1 50	1 00	50

VEGETABLE.—

No. 380.	Kohl Rabi, six specimens, three premiums	$1 50	1 00	50	

Onion.

No. 381.	Red Globe—Half-peck, three premiums	$1 50	1 00	50	
No. 382.	Yellow Danvers—Half-peck, three premiums	1 50	1 00	50	

Salsify,

No. 383.	Three premiums	$1 50	1 00	50	

Endive,

No. 384.	Six heads, three premiums	$1 50	1 00	50	

Squash,

No. 385.	Hubbard, three premiums	$1 50	1 00	50	

Thursday, October 15.

CUT FLOWERS.—

No. 386. In any form, gratuity.

APPLE.—

No. 387.	Pound Sweet, three premiums		$1 50	1 00	50
No. 388.	Peck, three premiums		1 50	1 00	50
No. 389.	R. I. Greening, five premiums	3 00	2 00	1 50	1 00	50
No. 390.	Other varieties, not scheduled, gratuity.				

PEAR.—

No. 391.	Anjou, five premiums	$3 00	2 00	1 50	1 00	50
No. 392.	Diel, three premiums			1 50	1 00	50
No. 393.	Comice, five premiums	3 00	2 00	1 50	1 00	50

VEGETABLE.—

SQUASH,

No. 394.	Bay State, three specimens, three premiums		$1 50	1 00	50
No. 395.	Butman, three specimens, three premiums		1 50	1 00	50

BRUSSELS SPROUTS.—

No. 396.	Half-peck, three premiums		1 50	1 00	50

POTATO.—

No. 397.	Seedling, originated in Worcester County, grown by the exhibitor, three premiums		5 00	3 00	2 00

Thursday, October 22.

FERN.—

No. 398. Best plant, three premiums.....$2 00 1 00 50

PALM.—

No. 399. Best plant, three premiums..... ...$2 00 1 00 50

POT PLANTS.—IN BLOOM.—

No. 400. Gratuity.

DECORATIVE AND ORNAMENTAL PLANTS.—

No. 401. Gratuity.

APPLE.—

No. 402. Ladies' Sweet, two premiums..... ....$1 00 50
No. 403. Baldwin, six premiums..... 4 00 3 00 2 00 1 50 1 00 50
No. 404. Canada Red (Old Nonesuch), three premiums..... .... 1 50 1 00 50
No. 405. McIntosh, two premiums..... 1 00 50
No. 406. Northern Spy, five premiums..... 3 00 2 00 1 50 1 00 50
No. 407. Roxbury Russet, four premiums... 2 00 1 50 1 00 50
No. 408. Golden Russet of Mass., three premiums. 1 50 1 00 50
No. 409. Golden Russet, sweet, two premiums.... 1 00 50
No. 410. Golden Russet, three premiums..... 1 50 1 00 50
No. 411. Red Russet, three premiums.. ..... 1 50 1 00 50
No. 412. Palmer, three premiums..... 1 50 1 00 50
No. 413. Lemon Greening, two premiums..... 1 00 50
No. 414. Collection, not to exceed ten varieties, not scheduled, four premiums.. ..... 5 00 3 00 2 00 1 00

PEAR.—

No. 415. Clairgeau, three premiums.....$1 50 1 00 50
No. 416. Langelier, three premiums..... ... 1 50 1 00 50
No. 417. Dana's Hovey, three premiums..... ... 1 50 1 00 50
No. 418. Angoulême, four premiums..... 2 00 1 50 1 00 50

No. 419.	Josephine de Malines, three premiums...	$1 50		1 00		50
No. 420.	Lawrence, five premiums...	3 00	2 00	1 50	1 00	50
No. 421.	Winter Nelis, five premiums.	3 00	2 00	1 50	1 00	50
No. 422.	Mount Vernon, two premiums.....				1 00	50

VEGETABLE.—

CELERIAC,

No. 423.	Six specimens, three premiums.....	$1 50	1 00		50

CELERY,

No. 424.	Twelve specimens, four premiums.....	$4 00	3 00	2 00	1 00

TURNIP,

No. 425.	White Egg, three premiums.....	$1 50	1 00		50
No. 426.	Purple Top, strap leaf, three premiums.	1 50	1 00		50

CHRYSANTHEMUM.

EIGHTH SPECIAL EXHIBITION

ON

Wednesday, November 11th,

AND

Thursday, November 12th, 1891.

[N. B. All the specimens placed in compctition must be from the best types, and owned and grown by the competitor three months.]

No. 1. For the best six Chinese, or large-flowered in pots,—distinct named varieties, four premiums.....
$8 00 6 00 5 00 4 00

No. 2. For the best six Japanese, in pots, distinct named varieties, four premiums. .....
$8 00 6 00 5 00 4 00

No. 3. For the best six Pompon, in pots, distinct named varieties, three premiums..... .....
$6 00 5 00 4 00

No. 4. For the best three plants, in pots, from Amateurs,—distinct (not named), four premiums.....
$5 00 3 00 2 00 1 00

No. 5. For the best display, in pots, any variety, four premiums. .....
$8 00 6 00 4 00 2 00

No. 6. For Specimen Plant, of any variety, four premiums..
$4 00 3 00 2 00 1 00

No. 7. For the best six Japanese, in pots, not to exceed 8 in., and not to exceed 4 blooms on each, three premiums. ....
$4 00 3 00 2 00

No. 8. For twelve Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums... $4 00 3 00 2 00

No. 9. For six Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums..... $3 00 2 00 1 00

No. 10. For six Cut Blooms of Chinese, or large-flowered, named, with long stems and foliage, in vases, four premiums..... $4 00 3 00 2 00 1 00

No. 11. For twenty-four sprays, Chinese or Japanese, named, not less than twelve varieties, in vases, four premiums..... $5 00 4 00 3 00 2 00

No. 12. For twenty-four sprays Pompons, named, not less than six varieties, in vases, three premiums..... $3 00 2 00 1 00

No. 13. For one Cut Bloom of Japanese, named, with long stem and foliage, two premiums.....$2 00 1 00

No. 14. Tall Vase, long stems, with foliage, three premiums.. $3 00 2 00 1 00

There will be no restrictions as to the manner of displaying Cut Blooms.

The sum of Sixteen Dollars may be awarded in gratuities for meritorious exhibits.

☞ This Exhibition will be open to the public from 2 P. M. until 9 P. M., Wednesday, and from 10 A. M. until 9 P. M., Thursday.

ADMISSION 10 CENTS.

N. B. All articles intended for this Special Exhibition, must be in the Hall, and ready for inspection by the Judge by 12 o'clock M., precisely, of the first day of the Exhibition.

By authority of the

COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS.

Attest:

EDWARD WINSLOW LINCOLN,
Secretary.

W.

OFFICERS AND COMMITTEES
OF THE
WORCESTER COUNTY HORTICULTURAL SOCIETY,
FOR THE YEAR 1890-91.

PRESIDENT:

HENRY L. PARKER, of Worcester.

VICE-PRESIDENTS:

STEPHEN SALISBURY, of Worcester; GEORGE E. FRANCIS, of Worcester; H. F. A. LANGE, of Worcester.

SECRETARY:

EDWARD WINSLOW LINCOLN, of Worcester.

LIBRARIAN AND TREASURER:

CHARLES E. BROOKS,* of Worcester.

TRUSTEES (BY ELECTION):

George Cruikshanks,	Lunenburg.	Henry Phelps,	Washington, D.C.
O. B. Wyman,	Shrewsbury.	David L. Fiske,	Grafton.
Charles E. Parker,	Holden.	Henry B. Watts,	Leicester.
Frederick A. Blake,	Rochdale.	Henry Reed,	Brookfield.
James F. Allen,	Worcester.	Edward L. Davis,	Worcester.
Henry Woodward,	"	James Draper,	"
William T. Merrifield,	"	F. M. Marble,	"
William H. Earle,	"	Luther R. Eames,	"
H. M. Quinby,	"	Calvin L. Hartshorn,	"
Samuel Flagg,	"	Joseph Lovell,	"
Frank J. Kinney,	"	Frederic G. Stiles,	"
Alden Rice,	"	Edwin Morse,	"
John D. Lovell,	"	John Midgley,	"
George F. Hoar,	"	S. H. Record,	"
George Calvin Rice,	"	Adin A. Hixon,	"
O. B. Hadwen,	"	Simon E. Fisher,	"
William Eames,	"	John L. Peters,	"
Sylvanus Sears,	"	William J. Wheeler,	"
Joseph Brierly,	"	Mrs. John H. Coes,	"
Thomas A. Dawson,	"	Mrs. T. L. Nelson,	"
Charles Greenwood,	"	Mrs. Thomas Ward,	"
Joseph W. Powers,	"	Mrs. F. H. Merrifield,	"

STANDING COMMITTEES.

ON FINANCE:

Edward W. Lincoln, 1891. Nathaniel Paine, 1892. George E. Francis, 1893.

ON LIBRARY AND PUBLICATION:

Edward W. Lincoln, Charles E. Brooks,* George E. Francis.

ON NOMENCLATURE:

James F. Allen, George E. Francis, Hermann F. A. Lange, O. B. Hadwen. James Draper, F. M. Marble, Charles Greenwood, Edward W. Lincoln.

ON ARRANGEMENTS AND EXHIBITIONS:

James Draper, *Chairman.*

Charles E. Brooks,* Calvin L. Hartshorn, Hermann F. A. Lange, O. B. Hadwen, Adin A. Hixon, Charles Greenwood, F. M. Marble, O. B. Wyman, Charles E. Parker, William H. Earle, H. B. Watts, J. L. Peters, George C. Rice, Edward Hall, William H. Johnson, with *President* Parker, and *Secretary* Lincoln.

AUDITORS.

Henry L. Parker, George Calvin Rice.

JUDGES.

ON FLOWERS, PLANTS, ETC.: William H. Johnson.

ON FRUITS, ETC.: James Draper.

ON VEGETABLES, ETC.: Charles Greenwood.

* Deceased.

TRANSACTIONS

OF THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY,

A. D. 1892-93.

Worcester, Mass.
CHARLES HAMILTON, PRINTER,
311 MAIN STREET.
1893.

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WORCESTER COUNTY
HORTICULTURAL SOCIETY.

A. D. 1892.

ANNUAL REPORT OF THE SECRETARY.

To the Members of the

WORCESTER COUNTY HORTICULTURAL SOCIETY:

WITH Samuel Adams Knox, who died on the 25th of August last at the great age of eighty-nine years, passed away, perhaps, the last survivor of those sturdy yeomen whose cordial appreciation and earnest zeal made our Society possible. He and his like throughout the towns of the county, were keenly observant in their pursuit of Terræculture; nor contented themselves with the simple faith that "While earth remains the harvest shall not cease." In the scant leisure from their exacting occupation, they were apt to investigate cause and effect; to inquire whence, or why, came blight or failure; and, when confronted by either, to search if haply Nature might not supply remedy for the evils whereof she was so prolific. To such men, the cull and flower of their several communities, the Annual Cattle Show was a welcome Festival, so long as it was maintained. They came to it at each successive recurrence, with the best that they could produce from flock, herd, or orchard; indifferent to the slight money-award, but justly proud of the pre-eminence declared by the award itself. When the time came for a line of separation to be drawn between the field and the orchard, none were quicker to hail the birth of the

new Horticultural Society, and to assist it firmly to its feet, than those Deacons or Selectmen, foremost in their respective townships and therefore best fitted to frame an organization designed to embrace the whole county. They entered into the competition of the day with a hearty zest that did not fail them at the Annual Ball in the evening; and they remained to attend the next night, with their families, the customary social reception by the Governor-President. It was, all in all, a great County Festival; held at its proper time, and therefore a Harvest Home. In these latter-days of perversion and degeneracy, when lust for gain overrules, and honorable rivalry is degraded to the ignoble level of a mercenary race, the last of our founders may well quit the earth which they toiled to improve and where they so nobly fulfilled their appointed task.

The reduction in frequency of our Exhibitions, and the attempt to lessen their exaction of labor and time; while simultaneously augmenting their attractiveness; may be claimed to have worked fairly well. It is yet too early, after the trial of a single year, to determine whether the experiment is a proved success. All such changes are prompted by the best motives; should be judged without consideration of our selfish individual interests; and, after all, can only be tested with assured certainty, by repetition and lapse of time. It is no demonstration of failure or success that one flower or another, this and that Summer or Autumn fruit, does not happen to be in season when the competition of a particular species or variety was invited. "Man proposes, but God disposes!" is a proverb of Olden English Chronicle. Our schedule may be framed with every precaution that foresight or experience shall dictate; yet

> "There 's a divinity that shapes our ends,
> "Rough-hew them how we will."

Suppose that our Strawberries or Plums do not "connect" with the date appointed for their trial! Some private pocket is doubtless the poorer; but wherein is the loss to Horticulture, as such, unless you are ready to assert that the award of money premiums is the Alpha and Omega of so much of Horticulture

as consists in Pomology. Exhibitions are well enough in their way, as a means to an end. But whether there are exhibitions or none at all, Horticulture, which dates from the birth of mankind, will continue; and perish only with the last of the race. There can be no dispute that our Exhibitions this year, when held, offered superior attractions. Will it not be well to try, yet awhile longer, so that we may learn if the path upon which we so lately entered may not be better, of itself, and still more conducive to "advancing the science and encouraging and improving the practice of Horticulture"! The coming year, at least, many of our Members will be sorely tempted to absent themselves in attendance upon the Columbian Exposition, with which no attractions that we can propose, in competition, would hold out the slightest allurement. Be it the mass of flowers and fruit, or the crowded attendance, each influencing and in its turn reacted upon by the other, the fact is beyond dispute that the close touch of elbow is as essential to success in the amicable rivalry of Horticultural Exhibitions, as in the heat and press of hostile engagements. There is greater incitement to please a multitude than to satisfy a few individual friends. And it must always rest with ourselves, by the effort that we put forth, whether we shall merit the triumph that crowns desert, or be supinely content to "waste our sweetness on the desert air." As your Secretary, I wish it distinctly understood that I have no individual choice in the premises; being solicitous only that your decision between weekly, or occasional, exhibitions may be determined with exclusive reference to the best interests of the Society,—the sole consideration that has influenced his own varying suggestions.

There are in the United States perhaps fifty [50] Stations, so-called, well endowed for purposes of experiment in matters pertaining to Terræculture. That they are diligent in the pursuit of knowledge, each in its own way, is amply proved in their constant issues of leaflet or bulletin. Whether their aim and effort is as wisely directed as might be, for common advantage, may well be asked by Horticulturists. For in the multiplicity of objects and problems that demand attention, some are

unquestionably more meritorious than others. There is such a thing as pounding over the dry husks of a science, to the neglect of the more nourishing meat in the kernel. Possibly all the ills to which flesh is heir may be traced, by a sufficiently free use of scalpel and microscope to fungus, or blight; bacillus, or microbe! Yet wherein has research clearly differentiated cause and effect? Are our fruits and vegetables degenerating because the prey of disease and insect; or do we invite attack from ever-threatening foes by our own laziness and neglect! Do we run for luck, that we may save the sweat of the brow? It is said that there are known to Botany more than a hundred thousand species of vegetables. How few of that almost incalculable variety can be found in common cultivation? How profound is our ignorance of their intrinsic or relative excellence! And still it stands to reason that there was as much design in their original evolution as in that of the very limited number hitherto naturalized in our kitchen gardens. Here and there may be found a novel Squash or Tomato; mayhap a new strain of Potato, developed from sheer necessity of so doing or of going without entirely; latterly the White Egg Turnip, which we cannot, or will not trouble ourselves to keep pure; and how much has individual interest or energy added to the old-fashioned healthful supply of our tables! Should it not be the business of somebody to take especial charge and compel development from such chaos? Private citizens have neither means nor leisure to devote to exploration of the latent secrets of Nature. They are too closely constrained by the hard necessity of earning a living for themselves and their dependents. Yet in a field so boundless, and where the laborers are so few, why should not the institutions, founded by the wise liberality of the Republic, develop their broadest possibilities! By seed or scion, by cross-breeding or hybridization, why should they not? and who better than they can! augment the sum of our actual knowledge, and diversify the character of our sustenance! Nay, would it be wholly idle to invade the unsettled realms of abstract speculation? The theory of Van Mons has been generally discredited; but yet when we cannot otherwise account

satisfactorily for reversion or utter failure of fruit or tree, that theory will obtrude itself with a persistency that does not admit of summary dismissal. As we trace back the inferiority of our Apple-Pies to the disappearance of the Rhode Island Greening, we are constrained to ask ourselves if there was not a grain of truth whereon to found the firm faith of Andrew Knight! Who should decide such mooted points if not the Agricultural Colleges and Experiment Stations? They endure; and can follow development from seed-time to fruition. Theirs is the fitting, and should be the grateful, task to test conclusively the evolution of Van Mons; the survival of Andrew Knight. For no reason can be educed from the analogies of Nature why Pomology should stand still, alone among kindred sciences. And where better than in the ranks of men whose lives are devoted to the acquirement and dissemination of such learning, may we look for that information which shall surely teach us what fruit is of most excellent quality, what tree is of most persistent vitality!

Wrote our Judge on Vegetables in his instructive Essay, last Spring:

"If prices are low at certain times they are high at others; and until we come a good deal nearer than at present to producing what is used here, we ought not to grumble about the poor market here in Worcester."

He speaks as a producer; and though only a consumer as I must regret to acknowledge, I would endorse his every word. One has but to keep his eyes open to observe the immense quantity of vegetable produce yearly brought into this city from remote sections of the Republic. Is it creditable to us that we depend so largely for the supply of our tables upon the industry of men who have no other or higher motive for production than ourselves? There can be no pretence of encouragement to home industry, in this respect, that is not found in the application of superior skill and tireless energy. After seeing and tasting such Celery as has been shown upon our tables, is it not mortifying to our pride as Horticulturists to note that the growth of Kalamazoo obtains here a profitable market? We

cultivate a small crop in the open; force perhaps a little more; and consume it out of season, going without it perforce when it is most wanted whether for relish or garnish. At Christmas, but two years since, not a stalk could be had for money; love was not tendered. Ought not Horticulture to make wiser, ampler provision? A first-rate article, whether of fruit or vegetable, will never lack a purchaser, if so be that he can find it without having to chase over half the town. The lessons taught by this Society, at its successive exhibitions, have had their effect. Our people have learned that a solid Tomato may as well be smooth and round; and they let alone such as are distorted and shapeless. They have discovered that a mealy Potato need not be knotted and knurly; perfect form saving waste, and suiting the pocket as well as the eye. We hasten to secure the barrel of Apples, whereof each choice specimen is the counterpart of another, all being perfect. For myself I can say that, for years past, I have been unable to buy, whether home-grown or brought from Western New York, a perfect barrel of such Apples as were common enough before Worcester became a city. Some of you may smile, and exclaim, with that extreme diffidence so characteristic of members of this Society, "Oh! if he had but seen mine!" But, setting aside self-complacency, and owning up in that frank confession which is good for the soul, is there a Pomologist present who dare challenge my assertion after an inspection of his marketable product by our vigilant Judge on Fruits! There is not a man that hears me (and woman has her right to be included!) that does not know how strong is the temptation to eke out a first-class eleven by the addition of a specimen with a slight blemish, in the hope that it may be overlooked? I know how it is myself. Now just make the computation. In a family as large as my own (and I am sorry that such are growing out of fashion, or capacity? in Massachusetts), four or five barrels of apples will save from both butcher and doctor. But they should be the fruit itself; unimpaired, and not repugnant from presence or trace of worms. Is aught but diligence requisite to meet this want? Is anything save assiduous care, either from ourselves or our

hired help, essential to the securing of a harvest so thoroughly sound! But yet the Yankee, who is too busy, or too lazy, to do the work in person, is not suffered to avail himself of the best service. He sits cowardly by, nor so much as protests against the importation of Hun or Slovack by a giant coal monopoly; he walks meekly to the polls at the imperious summons of some political boss, who supplements downright protection by the indirect aid of unrestricted immigration from every plague-spot of Asia; and does not even whimper when Chinese or Japanese, cleanly, industrious, trustworthy, whose history is coeval with the earth's, and who are pastmasters in all floral and pomological science, are yet forbidden, at the behest of the great American blatherskite, whose mouth only works, to dig, cull, assort, and pack for an insatiate market!

I have neither words nor patience to waste upon those, whose creed is that the whole duty of man, in this American Republic of ours, should be comprised in the study and practice of intense selfishness. Live, and let live! is a better, if not a Christian motto. We should, in Horticulture, grow that which we can to the best advantage; selling any surplus in the most profitable market. If the buyer is English, and proposes to pay in tin or wool, the wisdom of making the trade will depend very much upon the profit that we can figure. I prefer to produce fruits, knowing how; he wants them to eat. But he is short of cash and naturally desires to exchange that whereof he is in most ample supply. Except history is a lie, all civilization has been founded upon commerce. The hog roots; and is content with what is before his nose, unless he can possess the whole trough! But man is a nobler animal, it is to be hoped, with tastes to be gratified and faculties to instruct. And so he ransacks darkest continents, and the wastes of remotest seas, in restless hunt for aught that may please the eye or tickle the palate. The achievements of their merchants illumine the fairest pages that constitute the record of Greece, Italy, or England. It was once the boast of Massachusetts that the sails of her ships whitened every sea; and that carrying out granite or ice, they returned, freighted with

"The wealth of Ormus, and of Ind."

That was an ill day for this proud old Commonwealth, when the keels of Marblehead and Salem ceased to furrow the ocean, and their daughters,—future mothers of the State,—adopted the heartless servitude of shuttle and loom in lieu of the unrestricted freedom of home.

Horticulturists, we have nothing to sell at home or abroad, but fruit: all besides is required for our own consumption. But for fruit, were it sound, as it should be if only for our own good repute, there are now, and bid fair ever to be, abundant markets beyond the ocean. To what better use can we put our hill-sides, denuded of timber, with their strong virgin soil adapted for the nourishment of the Apple! Leave shuttle and loom to those who would rather hear the mouse squeak than the lark sing! But, for us, the free air of heaven; the hearty culture of the soil; the honest, well-earned returns from an occupation that labors its own appointed hours; that does not breed strikes; nor eternally importuning government to make good its profit, has a right to complain when forced to contribute toward the support of alien and unnatural business.

But after all we are met with the ready, well-worn, excuse for moss-grown, insect-infested trees, and barren orchards, that Nature is dominant and, at best, will only afford a crop in alternate years. Is this the truth? Or was Andrew J. Downing less wise than he was reputed in his own day, and has been accepted since, in ours! Was he not warranted in his assertion that

"When half the fruit is thinned out in a young state, leaving only a moderate crop, the Apple, like other fruit trees, will bear every year, as it will also if the soil is kept in high condition."

Did he not assign the proper reason for infertility when he wrote in the preliminary chapter of his unrivalled work,

"*The bearing year* of the Apple, in common culture, only takes place every alternate year, owing to the excessive crops which it usually produces, by which they exhaust most of the organizable matter laid up by the tree, which then requires another season to recover and collect a sufficient supply again to form fruit buds."

I know what thinning may amount to, for I have tested it, if only on a small scale. Having once picked from a single pear-tree, by precise count, no less than two thousand (2,000) specimens of Belle Lucrative,* leaving twice too many at that, it is not likely that I should incline to belittle the magnitude of the task devolving upon him who would manage, as he should, an orchard for profitable, and therefore continuous, fecundity. But what if it would pay to do it? All tasks, whether of our own election or set for us, are apt to become wearisome in course of time. Why should the thinning of immature fruit be more repugnant to our refined sensibilities than the hoeing of corn or potatoes? Surely it can not be more tiresome than the weeding of onions, even if not so highly-toned! Apple-trees, left to themselves, have been known to yield twelve barrels. Does any analogy in Nature go to show that such fecundity can be maintained without resultant exhaustion, or what in the human subject is significantly termed consumption! Allowing forty (40) trees to the acre, with five (5) barrels left upon the tree, can you do better with corn or hay, neither of which are possible upon rocky slopes that furnish a kindly home to nut and fruit tree? A careful watch of the prices current, in the great English markets, since first exportation commenced, convinces me that selected, sound fruit, carefully packed, cannot be shipped there amiss. And, if wanted in Covent Garden, the foreign demand cannot but advance the home market, that sorely needs an extraneous fillip, and, may I add, an "unbounded stomach." "Good cultivation and a system of high manuring will always remunerate the proprietor of an orchard,

* Is there a pear that yields like the Belle Lucrative? All its offspring inherit the trait to which, in and because of its excess, they are likely to fall victims. That most promising cross, regarded by our local pomologists with pride and hope, EARLE'S BERGAMOT, will transmit a noble fruit and perpetuate an honored name, if it does not succumb to the malignant foe of its female parent, Blight! a pest which your Secretary dares to assert, despite the whole sickly lore of bacillus, fungus, or microbe, is the consequence of downright exhaustion from over-cropping! MARIE LOUISE, of first rank whether in England or America, is threatened with a like doom because we will not realize that enough, in the long run, is better than a gorge!

E. W. L.

except it be planted in a quicksand or a cold clay; in such soils no management can prevent an early decay"; was the conclusion of Coxe, in his "View of Fruit-trees." But whence cometh the manure? groans Faint Heart, who sits on the fence awaiting the straw wherewith he shall make his bricks. Howsoever it may have been of yore, does the invention of the silo leave any sincere inquirer in doubt! Milk is an excellent thing in itself; but also because the constant demand for it incites to the keeping of more stock and consequently to the production of more manure. And that manure, put where it can do the most good, will surely bring its own returns, after many days. Why is this distrust of fruit-tree planting, and the value of orchards, as compared with other out-door, more laborious occupations? Is the incessant care, with watch and ward, of hot-beds and green-house, less exacting? Is it easier to keep clean the strawberry-bed and thereafter to

> Crook the pregnant hinges of the knee,
> Where thrift may follow,

likelier than not, a crick in the back! Or, as we stoop painfully o'er onion and turnip row, do we croon in a soft monotone,

> "On with the dance! let joy be unconfined"!

We select our best fields, enrich them copiously, sow them to grass or grain, sparing no pains in their cultivation if the latter; and content ourselves, since we cannot help ourselves, with what harvest we get. Why not apply similar philosophy to the production of fruit? In tillage, no one expects to reap where he has not sown. Why then expect from the orchard what you do not from the furrow,—a return that is promised only to earnest toil. You have heard, the veterans among you at least, of Duncan C. Pell and his famous experiments with the Newtown Pippin. To emphasize and illustrate my contention that what man has done other men may repeat, I quote the full statement, by himself, of his method of treatment and the results. Some memories may be refreshed by the re-publication; while, to the more youthful members of the Society, its weighty lessons will be fraught with the charm of novelty. It should be

noted that what Mr. Pell did was done "with his might." That was many years ago, and his example has found few imitators. But of his labor, and the fortune that it earned, he thus wrote:

"For several years past I have been experimenting on the apple, having an orchard of 2,000 bearing Newtown Pippin trees. I found it very unprofitable to wait for what is termed the 'bearing year,' and it has been my aim to assist Nature, so as to enable the trees to bear every year. I have noticed that from the excessive productiveness of this tree, it requires the intermediate year to recover itself—to extract from the earth and the atmosphere the materials to enable it to produce again. This it is not able to do, unassisted by art, while it is loaded with fruit, and the intervening year is lost; if, however, the tree is supplied with proper food, it will bear every year; at least such has been the result of my experiments. Three years ago in April, I scraped all the rough bark from the stems of several thousand trees in my orchards, and washed all the trunks and limbs within reach with soft soap; trimmed out all the branches that crossed each other, early in June, and painted the wounded part with white lead, to exclude moisture and prevent decay. I then, in the latter part of the same month, slit the bark by running a sharp pointed knife from the ground to the first set of limbs, which prevents the tree from becoming bark bound, and gives the young wood an opportunity of expanding. In July, I placed one peck of oyster shell lime under each tree, and left it piled about the trunk until November, during which time the drought was excessive. In November the lime was dug in thoroughly. The following year I collected from these trees 1,700 barrels of fruit, part of which was sold in New York for four, and others in London for nine dollars per barrel. The cider made from the refuse, delivered at the mill, two days after its manufacture I sold for three dollars and three-quarters per barrel, of 32 gallons, exclusive of the barrel. In October I manured these trees with stable manure, in which the ammonia had been fixed, and covered this immediately with earth. The succeeding autumn they were literally bending to the ground with the finest fruit I ever saw, while the other trees in my orchard not so treated are quite barren, the last season having been their bearing year. I am now placing round each tree one peck of charcoal dust, and propose in the spring to cover it from the compost heap."

It may seem to some who have bestowed but shallow reflection upon the subject that I am wasting time upon a jejune theme. To my mind there can be no exaggeration of the vital importance to the future welfare of Worcester County of a careful, systematic development of its orchards. We should find competitors, to be sure; notably from Nova Scotia and, in a lesser degree, Michigan or Western New York. But we possess an advantage over all but Nova Scotia, in our proximity to the ocean—a highway to the best market. Everything else depends upon ourselves. Terræculturists,—we require no bounty; not even upon our maple-trees, from which the sap has flowed for centuries, without let or hindrance. It is not ours to manufacture; so that if we do not share in the high per centages, neither do we underlie the dire necessity of frying upon the political gridiron! Quite recently are we told that we ought not to cry if we can no longer work in Iron; that the discrimination against us is of Divine origin, and that, being assured of His will, we should either emigrate to the ore-beds or, if we conclude to stay where we were born, grin and bear it! taking our medicine like little men. But is not the voice, the voice of Jacob, all the while? And the local orchardist, who is not prepared to grow fruit, at a profit, for workmen in Waukegan, may wisely ponder if the policy advocated by Ames and the elder Moen was not better calculated to gather ready mouths for his produce! If, in good sooth, it is not Congress, rather than the Deity, that sits down heavily on scrap-iron; and the squeak of Sir Oracle instead of the voice of the Lord that attunes its individual needs to its own dissonance from every village stump. I would give many a shekel for the privilege of witnessing an interview between the Belials* of this new dispensation and the shade of Ichabod Washburn, wherein they should essay to convince that hard-handed, clear-headed son of Vulcan that he erred in coming, without staff or scrip, to Worcester; but should rather have set up his anvil in that favored spot of earth where coal, ore, and flux, jostle each other in their separate matrices; yet where man, insatiate and selfish, eternally

*"Skilled to make the worse appear the better reason."

clamors for partial legislation to supplement the lavish bounty of God!

Thanks to the foresight of our forefathers who provided in the fundamental law that,

"No tax or duty shall be laid on articles exported from any State,"

no ineptitude or stupidity of legislation can wholly obstruct our commerce upon the ocean. It requires but industry and honesty, on our part, to build up a traffic that shall be gainful to all concerned. Industry to plant and nourish; honesty to guard against ourselves, chief of all, taking heed that, under no temptation, do we suffer the high standard of quality which we have once established to be impaired by the toleration of so much as a single defective specimen. The Newtown Pippin commands its present market largely because of the conscience that Duncan C. Pell put into the management of his business. Shall it be said that no other American can or will pack a barrel of apples which needs no inspection because of the trust reposed in himself!

You will have noted that in the burden of my contention, in this vital matter of a gainful existence for those who follow Horticulture locally, I have admitted the possibility of a future struggle with the pomologists of Nova Scotia for mastery of the Fruit Market of the world. To those who dread such competition; or who fear, even after the signal illustration of what can be done in Worcester County which was so conspicuous in this Hall, on October 13th ulto., that we might not hold our own in a keen rivalry with the seaboard provinces; I commend a study of the Government Crop Report of Nova Scotia which came to hand after the major part of my argument had been written:

"The prospect of the Fruit Grower is not very bright. In districts where fruit is grown for home supply, there appears to be an expectation of nearly an average crop. The two principal counties that send fruit into the general markets are Kings and Annapolis. The following summary of their returns are not very promising:—Co. Annapolis: *Paradise.* Great growth of wood; fruit dropping. *Lawrencetown.* Below

average in quantity and quality. *Spa Springs.* Average crop. *Granville Centre.* 85 per cent. of a full crop. *Round Hill.* Below an average crop."

From which summary the conclusion appears evident enough, and in no-wise forced, that as there is no royal road to learning, so neither does stubborn loyalty endue provincial orchards with fecundity at all surer or superior to that which is the fortune of our own pugnacious community that, in a lower latitude set up in business for itself—a "State without a king."

On the 24th of October ulto., so tender a plant as the Canna betrayed but slight trace of the advanced season. Nowhere are there signs of a killing frost. Is it much to be wondered at that men are astonished and ask each other if our climate is undergoing a permanent change! Dismissing all wild speculation about a diversion of the Gulf Stream towards our Atlantic Coast, a fantasy that no observations of our Naval Scientists go to support, are there not some reasons that tend to encourage belief that a modification of temperature is silently going on that tends to soften the usually harsh conditions of a "stern and rock-bound" State? Nothing can be more unreliable than statements of temperature, in former years, that are sustained only by memory. But when specific facts can be cited, in aid of a reminiscence of seasons of continuous mildness, or the reverse, a solid basis is supplied for our theory. Now, for a long series of years, this Society was accustomed to hold one, and but one, Exhibition of Flowers, Fruit, &c., &c. Those exhibitions were invariably appointed for a date synchronous with the Annual Cattle-Show; occurring as near as possible to mid-September. Of course a display of out-door flowers was desirable for the success of those exhibitions; you may well believe, all-important. Yet scarcely once out of three times were the elements propitious; and our tables were constrained to forego, as best they might, the color and fragrance that Flora only can contribute. Especial pets were mayhap saved from frost by local protection: but protection "pans out" pretty thin when apportioned to town or county. There does appear to be warrant for the growing opinion that the Autumn is pro-

tracted later than formerly, and a strong argument in behalf of such theory may be deduced from the indisputable fact that complete maturity of the Grape can be counted upon, with almost absolute assurance, annually, throughout the County of Worcester.

At Harvest Home you can always rely upon the Fruit-Thief. Whatsoever else may fail, blight, decay, or the plague of insects, juvenile stealing knows neither pause nor cessation. And why not? Is it not fast becoming a fixed creed with the men who "cannot dig and to beg they are ashamed," that there can be no valid title to land? And wherefore then to its usufruct! Shall not those who work with the jaw-bone, live by it? And how better, or more easily, than by spoiling the Egyptians! Shall not the children inherit the faith of the fathers? If there is no value nor ownership save that which labor creates, what more valid title can be shown to the fruits of the orchard or vineyard,—to Apple, Pear, Grape, or Nut, than that derived from the toil expended on Sunday, in Autumn, by the boys and girls that herd like wolves; and like them "come down on the fold," in weekly predatory excursions! If anywhere, you would imagine vineyard and orchard to be secure in the seclusion of the farmstead; or along the thronged streets of the city, where hired guardians of the public peace hunt in intermittent couples. Yet, between set and rise of the sun, September 7-8, a tree belonging to your *Secretary* was relieved of its burden of Beurré Bosc pears. The tree was situated within a rod of a public street, and the thief had the aid of a bright moon, which doubtless also intensified the vigilance of "the finest"! Two weeks earlier, the Peach-trees in the garden of Mr. James Green, a member of this Society, were stripped clean. The Police-force is so large that its members can be spared on vacation; meanwhile homesteads and orchards are ravaged and there is neither prevention nor detection; of punition no likelihood, nor hope.

> "But, let some old woman, that lives in a shoe,
> Have a schooner of beer! and there 's a precious to do."

Still, if the General Court will continue deaf, or indifferent to the plaint of this Society that some measures should be taken

in restraint of juvenile offenders, why should aught better be expected from the ordinary police-force of municipalities! Have they not to ape the military and parade as a train-band! In these days of government by theory, we fare well if we can secure our homesteads from the multifarious inroads of taxation, leaving out of consideration the returns that we might reasonably anticipate from their cultivation. Confiscation assumes many insidious aspects; perhaps we ought to be grateful, when it impeaches the title to land, that it has the decency to at least pretend philanthropy. And finally, whether we gather our harvest, or it is stolen from us, upon this we can reckon with entire certainty, that mid-autumn will scarcely pass ere our privacy is disturbed by the usual rude irruption, and the annual imperative demand: "How many tickets do you want for the '*police-ball*'?"

This Society was invited, in mid-summer, by the "Massachusetts Society for the Promotion of Agriculture," to participate in a meeting on August 4th, of delegates to consider the subject of the Tent Caterpillar; presumably its ravages and the most effective method for its suppression. The notice was so short that compliance with the request was found impossible. Your *Secretary* took the liberty, after consultation with *President* Parker, to assure the Massachusetts Society for the Promotion of Agriculture that it might depend upon the hearty co-operation of the WORCESTER COUNTY HORTICULTURAL SOCIETY in any proper measures that should be suggested for the extinction of that, or any similar, unmitigated nuisance. No information has come to hand, hitherto, of the line of action advised at that meeting; nor indeed whether it was actually held. That it ought to have been cannot be disputed. It may well be questioned whether the efforts to exterminate the Gypsy-moth are directed towards the elimination of a greater evil than this which we have so long known; and which, unless greater vigor is shown in dealing with it, bids fair to abide with us in perpetual ravage. Our fairest landscapes are disfigured by its overwhelming, rapacious presence; and park-ways, otherwise attractive, are rendered positively repulsive by its disgusting fecun-

dity. In this city, frantic appeals, not wholly unmixed with denunciation of assumed official laches, were addressed to the Parks-Commission. But it was plainly manifest that the plague did not come within their purview; for that the Shade-Trees of Worcester are of a class that do not harbor such insects. The wild-cherry, with swamp and road-side brush, are their chosen *habitat;* and they are tolerated by private owners, who cannot be permitted to shift the pack of their individual negligence upon the broad back of the community. After the citizen has done his duty towards the reduction in numbers of a pest that he has hitherto harbored, will the occasion offer for the application, by public officers, of saw, torch, or worm of wire. But, if the citizen *will not* do his duty!

Reviewing the history of the Royal Horticultural Society of England, in the light of its reviving prosperity, the *Gardener's Chronicle* expresses some opinions that it may be worth our while to ponder:

"It is not the interests of prize-loving exhibitors, not the welfare of trades, not the whims and caprices of mere pleasure-seekers that the Royal Horticultural Society has primarily to do with. These things are all well enough, and unobjectionable if kept within due bounds; but neither of them singly, nor a combination of all of them, can be urged as anything but very secondary objects for the Royal Horticultural Society."

"The renewed offer of money-prizes is a conciliation to the weakness of frail human nature. Such prizes constitute one of the main objects, and reasons for existence, of the special and of all the local societies; but are of far less consequence in the case of a body whose duty it is to advance horticulture rather than gratify individual ambition, or satisfy less honorable, however legitimate, proclivities."*

The award of money-premiums is well enough in its way, where it is intended and operates to arouse and stimulate an interest, hitherto dormant, in the various branches of horticulture. But when it becomes the sole end, and the loftiest ambition of competitors, at our exhibitions, to obtain the higher prizes because of their intrinsic value, the function of the Society is perverted and its rewards are meretricious. It may

* *Gard. Chron.*, 13 Feb., '92, p. 208.

exact stern self-denial, possibly entire abnegation of self, to assume for our own the austere motto of ancient Rome:

"*Palmam qui meruit, ferat;*"

but what nobler or more appropriate rule can we adopt for our guidance! And after all, in proportion as we attain to such disinterestedness; and so govern ourselves that we may join in cordial acclaim to the best man who wins; shall we make ourselves fit to achieve the prizes of our honorable calling. In horticulture, as in aught else worth pursuit, the man who knows it all is sure of the back seat; being distanced at every turn by the humbler, but assiduous, student.

And likewise of what the *Chronicle* euphemistically terms the "welfare of trades." A prominent member of the Massachusetts Horticultural Society once told me that the marked success of that organization might be attributed to its exemption from the influence of the shop,—more than to any other cause. By which he doubtless would be understood to imply that the Society and its membership pursued horticulture for its own sake; and not, according to current slang, for what there was "in it"! When exhibitions are maintained because they furnish a dividend day, as it were, whereon to apportion gross income, the true vital spirit of the association faints and dies beneath its mercenary burden, and its epitaph cannot be too soon nor plainly written: Here lie Ceres, Flora, and Pomona! Would you know wherefore they perished, untimely? Because they made unto themselves idols,—Apples of gold in pictures of silver; and, coveting the work of their own craft,—*auri sacra fames*,—proved their death! Were I prelate of this communion I should never cease my exhortations to the attainment of the highest excellence; to implore each member to discard everything imperfect, even where detection is unlikely; and to strive, in all honorable ways, for achievement of that pre-eminence which will surely attend upon honest purpose and fair dealing. Or, as was forcibly expressed by the Preacher, of olden Jewry,—

"Seek ye first the kingdom of God and his righteousness, and all these things shall be added unto you!"

The *Chronicle* declares, finally, that the "whims and caprices of mere pleasure-seekers" should never be suffered to guide or determine the policy of the Royal Horticultural Society. Should our own organization yield to such fickle or pernicious influences? Wherein does Horticulture profit, in Worcester, if the old rounders fill the wall-seats punctually as our exhibitions are held! For a rule, they are disciples of the lucrative faith that patient waiters are no losers; so, wherefore should not their laps be ready to catch flower or fruit, if perchance contributors do not care to take them home! This may sound cynical to some; yet who of all that have been beneficiaries of our hospitality and gratuitous instruction, have been moved to pay the small sum that would constitute them members of the Society! How many grudged even the pittance that was necessarily charged for admission to our late peerless display of all the choicer autumnal fruits!

But still there are signs that our work has not been wholly unprofitable. At no exhibition, in later years, were there so many new contributors as upon October 13th, ulto., when our tables were heaped to profusion. Unwonted names met the eye of your *Secretary* as winners of awards; and he could but wish that it might be his good fortune to inscribe them upon certificates of membership. Having taken the first easy step, let us trust to their good judgment to impel them forward, until they finally conclude to affiliate with the Society. For indeed it is greatly to be desired that our ranks, perceptibly thinned of late, should be strongly augmented by the enlistment of worthy recruits. Upon a single morning of October, last past, it became my official duty to minute upon the record the concurrent deaths of three who for years have shared our fortunes. Such losses a Society like our own, from its very character restricted in numbers, can ill afford. Shall we not, each and all, make an individual and collective effort to secure the accession of that very considerable number who perhaps require but the invitation that shall assure them of welcome. The payment of an inconsiderable sum at once opens to them the free use and enjoyment of our library, in its specialty

acknowledging few superiors; but also makes them coparceners in the ownership of this valuable parcel of real estate dedicated to our particular science and practice.

The Fiftieth Anniversary of the legal incorporation of this Society was celebrated, with enthusiasm and pride, on the third of March, ulto., and a full account of it is recorded in our latest published Transactions. I should not now refer to that narrative, were it not my first official opportunity to take suitable notice of a deliberate attempt to unsettle all established horticultural tradition. In his remarks responsive to the toast commemorating his uncle, our First President, Mr. Samuel S. Green, City Librarian, took advantage of our presumed ignorance of biblical exegesis, declaring that we are not warranted, from anything in the Septuagint, to conclude that it was an *apple* which tempted Eve! And yet the sole basis for his very serious contention is the statement that, according to the original Hebrew,—"the serpent took of the *fruit* of the tree of the knowledge of good and evil," &c., tacitly admitting that he does not pretend to know what kind of fruit that tree bore! Now is not this a pretty frail foundation for an argument that is aimed to shake the faith of ages? Not the Apple, forsooth! The Scripture declares it to have been "good for food and pleasant to the eye." How can you describe the Apple more clearly? Eve was no fool, if she did manifest curiosity. She saw something well worth her while to investigate and—paid as much heed to prohibition as it gets now! What fruit has come down to us that will more richly repay antiquarian research and trouble than this staple product of Eden—alias Massachusetts? I perceive the look of incredulity, as though you would challenge my right to identify our noble Commonwealth with the primeval *Hortus*. But suppose that I claim the lost Atlantis to have been the original home of our first parents,—how shall you dispute my assertion? And if anywhere in Atlantis, or its proximity, where could it have been located so felicitously as here in Massachusetts,—the Vinland of re-discovery: a land whose granite and ice are once again made to bourgeon and

blossom as in the olden days before the Fall; ere yet the Tempter had left his trail in River, Early Harvest, or Astrachan!

Does common acceptance throughout the centuries go for nothing? Where does Satan come in, with Mr. Green for interpreter? Grant that "the serpent was more subtil than any beast of the field." Does that establish his identity with Lucifer,—Son of the Morning? Yet,—who doubts it!

Does not etymology throw a clear light upon this whole contention? You have heard of *malum prohibitum*,—the ancient synonym for rum or lager. But *malum* is also Latin for Apple. In Doric it was ὠᾶλον. Now if you will cut the leaves of your Paradise Lost, you will discover that the poet of that earliest secession attunes the march of the Satanic levies,

> "In perfect phalanx, to the Dorian mood
> Of flutes and soft recorders."

If then the origin of the Doric is so remote, what can be more manifest than that ὠᾶλον escaped from Babel and, in the confusion of tongues, became transmuted into *malum*—the Latin name indiscriminately of Evil, or of the noblest of fruits.

Must not our associate, from the stores of learning that he has garnered, and with which he is in such constant, close communion, devise a more plausible exegesis than the one of negation simply that has deluded him these many years!

If this Society intends to be represented at the Columbian Exposition, in Chicago, this meeting should authorize the Trustees to take the preliminary steps in preparation. It would be wise, perhaps, should you see fit to approve such action, to appoint a committee which may determine in what manner and to what extent you will put in your appearance. The lessons of former experience are not without valuable instruction. A. D. 1876, it was thought best to challenge a special competition in the choicer varieties of Apples and Pears; the plate of each variety adjudged superior to become the property of the Society, by gift or purchase, and thereafter to be entered at

Philadelphia, the name of each grower being left conspicuous. Mr. Henry Phelps, then pre-eminent as a Judge of Fruit, was designated to take charge of the entire collection, and to see that it was properly arranged. As some of you may never have known, and other some have forgotten, how the Society, and its individual exhibitors fared at that first Centennial of the Republic, the record is recited, in this connection, for general information:

"Under the date of February 15th, A. D. 1877, your Secretary received an Official Notification from the Director-General of the United States Centennial Commission that the 'Group Judges' had reported in favor of an 'Award' to the Worcester County Horticultural Society for its 'Product,'—'sixty (60) varieties of Apples,' for the following reasons, viz.: 'Large and interesting collection of Apples; the following very well grown:—Leicester Sweet, Winter Harvey, Pomme Water, Beauty of Kent, Williams's Favorite, Holden Pippin, Porter, Summer Pippin, Mexico, Roxbury Russet, Gravenstein, Maiden's Blush, Cogswell, and Primate. Also, for "Salisbury's Seedling," and a seedling from "Northern Spy,"—both thought to be worthy of trial.' Which Report the Centennial Commission had accepted, approving its reasons and decreeing an 'Award' in conformity therewith."

"The next succeeding mail brought another letter from Director Goshorn announcing that an 'Award' had been recommended and decreed to this Society, as such, for forty-three (43) dishes of Pears, from seventeen (17) growers. This collection is one of very great merit, showing the intelligent culture necessary to produce such handsome fruit in a very unfavorable season."

"Awards were also decreed to individual members of our Society, as follows, viz.:

"William H. Earle, for six varieties of Pears, all large and well-grown, including the Bartlett and Beurré Clairgeau, which are exceptionally fine."

"John C. Newton, for one dish of 'Paradise of Autumn' pears which are grown to great perfection."

"Newell Wood (Millbury, Mass.), for one plate of Doyenné Boussoc, very finely grown, perfect in form and color."

"Edward W. Lincoln, for one plate of Beurré Bosc, and one of Washington, both of which are very attractive dishes of fruit."

"Mrs. George A. Chamberlain exhibits one dish of the Howell, very finely grown and exquisitely colored."

"O. B. Hadwen, for one plate of Ananas d'Eté, fine in size, perfect in form, and beautifully colored."

But few of the Diplomas then awarded grace our walls, from which all of them should be suspended; a source of pride in the past and an incentive to noble emulation in the future.

At that Centennial Celebration, in Philadelphia, only State Societies were recognized, officially. A similar rule is understood to govern for the Columbian Exposition, A. D. 1893, in Chicago. The Massachusetts Horticultural Society has secured one thousand (1,000) square feet of space; and a copy of a circular addressed to "Farmers and Horticulturists," has been received by your *Secretary*, officially, which may doubtless be regarded in the light of a call from Macedonia. There should be nowhere apprehension that our aid will not be welcomed, as it certainly would not be lacking, in any generous, well-advised rivalry to see who shall do most to insure a pomological display that may reflect credit upon the Commonwealth.

Yet, before we suffer the Society to be committed, beyond recall, to a share in the competition at Chicago, for pre-eminence in the Pomological Department, there are questions of grave moment to be considered and determined. This country, wherein we dwell because of nativity for the most part, and are horticulturists altogether from choice, is wide-spread, stretching from Arctic to Tropic. We endure every diversity of climate, involving changes so sudden and extreme as to wholly defy calculation in advance. The Oranges of California do not ripen with those of Florida; and Apples may be past their prime in the Middle States when they have scarcely attained maturity throughout New England. Under such uncertain conditions, themselves liable to be modified by the vicissitudes of varying seasons, the Fruit of a Continent will be challenged to a close, if amicable, rivalry. At what precise date is an over-ruling problem for us. October is the month of Fruit, here in Worcester County, as you have so recently had ocular demonstration. A week or two may make all the

difference between success or defeat. Who can say by how much the growth of Comice or Sheldon was diminished, because of the fierce winds which hurled them to the ground towards the close of last September? Every day, as the period of maturity approaches, adds to the size of those superb Pears; and in their case bulk, gradually attained, is never inconsistent with quality. Again, would not two or three weeks longer upon the tree have developed yet more strikingly the paramount excellence of such Greenings and Hubbardstons as were lately taken to Boston, to show *Civicus* what *Rusticus* can do when he sets about it! The late John Milton Earle was emphatic in the expression of his opinion that the last four weeks, just prior to maturity, did more to augment the size and improve the quality of Apples, and Pears, than the entire previous period of growth. Even were that position extreme, it cannot be denied that those Autumnal Fruits are best whose harvest is deferred until the peril from freezing is too imminent to be risked longer.

Whatsoever our plans for the Columbian Exposition, to be timely they must be early determined. We must effect an understanding with the Massachusetts Horticultural Society whereby we may ascertain if the rule is inexorable that contributions shall have been grown in 1892, as now so curtly announced. The Columbian Exposition, itself, is not to open until May, 1893. Why then should such an irrational condition be imposed upon the products of Horticulture, annual in development, and which should be shown in perfection, if at all! Is there any other Department in which it is to be a prerequisite that articles must be shop-worn or stale? The fruit of a preceding year no more represents the actual product of an orchard than does a nurseryman! "Grown in 1892 and preserved in cold storage," forsooth! Not by such methods did Massachusetts attain her proud position in the Horticultural Exhibition at the World's Fair in Philadelphia, A. D. 1876; and by no such agencies will she be able to "maintain the same high standard of excellence." Individuals are untrammelled and can contribute, or withhold, as suits their judgment and

taste. But let it never be charged with justice, against the Worcester County Horticultural Society, as such, that it prostituted its lofty mission to any ignoble aims; or so demeaned itself as to underlie the reproach,—the more bitter because so true,—that

> "The funeral baked meats
> Did coldly furnish forth the marriage tables."

Why these altered, unnatural conditions? Why stringent exactions in behalf of a dead, or phantom, memory that were not imposed when the continued, vigorous life of our Republic was to be commemorated! Not thus,—by no cold storage! by no attempt to evade or subvert natural laws; by no cunning appliances of the huckster; did your exhibits at the Centennial of the Republic achieve the distinction whereof the evidence is so manifest from these walls. We are told that "the great development of Horticulture in the United States, since 1876, renders necessary most strenuous efforts to retain the leadership which our beloved State has always held." The precise character or magnitude of that "great development" is not clearly apparent, unless we accept for it that latest hobby of florists—the craze in Chrysanthemum. Many years have elapsed since the Centennial Exhibition; and it would be strange indeed were it impossible to improve upon the tentative policy of that almost forgotten period. There would inevitably be great changes in the variety of fruits that we might select, since pomological, like all other taste, is fickle; and the kind that tickles the palate of one generation becomes insipid to its successor. Of course certain Apples and Pears are, and bid fair to continue, standards of excellence at all times and everywhere that they can be grown. But novelties are introduced, —the product of cultural skill or natural evolution; and surely, if slowly, the inferior are neglected or summarily discarded.

Personally, I have serious distrust if the fruit of the present season will keep well. Its tendency is, rather, to ripen early, if not prematurely; when, in spite of every artifice for its preservation, it must soon decay. The Massachusetts Society is

willing and ready to try the experiment. We may well wish it success, reserving our own energies, as an organization, for efforts whose result cannot be doubted. Manuring now, cultivating in Spring, thinning in early Summer, we can prepare ourselves to reinforce the Massachusetts Society at Chicago by seasonable and adequate reserves. If our co-operation is not wanted, on such reasonable terms, we shall at least have the satisfaction of knowing that no blame can attach to the Worcester County Horticultural Society, should the high standard heretofore upheld by the Commonwealth be materially lowered in the impending rush and ruck of nations.

All which is respectfully submitted

[by]

EDWARD WINSLOW LINCOLN,

Secretary.

Horticultural Hall,
Worcester, Massachusetts,
November 2d, A. D. 1892.

REPORT OF THE LIBRARIAN.

Worcester, November 2, 1892.

To the Members of the
Worcester County Horticultural Society.

Your Librarian, in consolidating his report for the past two years, wishes to call attention to the fact that the Library has been open continuously from 7.30 a. m. until 6 p. m., six days of the week for nine months of the year, which seems to be appreciated by a more general resort to the Library as a reading-room, and for the supply of books.

The following additions have been made during the past two years:

Reports from the Consuls of the United States; Nos. 119 to 141, inclusive;

Index to Vol. 34;

Special Consular Report of Food Preservation in Foreign Countries; U. S. Bureau of Statistics.

Album of Agricultural Graphics, showing the values per acre of crops raised in the United States;

Farmers' Bulletin, Nos. 2, 3, 4;

No. 7, Spraying Fruit Trees for Insects, Pests and Fungus Diseases, with special consideration of the subject in its relation to the public health;

Illustrations of North American Grasses; George Vasey;

Additional evidence on the communicability of Peach Yellows and Rosette; E. F. Smith;

Report of the Secretary of Agriculture, 1890;

Album of Agricultural Statistics of the United States, 1891;

United States Experiment Station Records, Nos. 5 and 6, Vol. 3; Department of Agriculture.

Bulletin No. 1, Honorary Degrees as Conferred in American Colleges;

History of Higher Education in Alabama;

History of Higher Education in Indiana;
History of Higher Education in Michigan;
History of Higher Education in Ohio;
History of Higher Education in Massachusetts;
The Teachings and History of Mathematics in the United States;
Rules for a Dictionary Catalogue; Charles A. Cutter;
Fourth International Congress at St. Petersburg, Russia;
Reports of the Commissioner of Education, Vols. No. 1 and 2, 1888 and 1889; bound;
Publications of the United States Bureau of Education, from 1867 to 1890, with sub-index; United States Bureau of Education.

Bulletins Nos. 1, 2, 5, 7, 9, 31, 33, 34 and 35; Bureau of American Republics.

Census Bulletins, United States:
Agriculture and Horticulture.
Viticulture.
Horticulture and Nurseries.
Agriculture and Truck Farming.

Horticultural Department, United States:
Paper on Horticulture, and Kindred Subjects; William Saunders.

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Report of Missouri Horticultural Society, 1891.

Report and Catalogue of Harvard College, 1890 and 1891.

Report of the Trustees of Public Reservations of Massachusetts, 1891; 1st annual.

Report of Superintendent of Streets of Newton.

Report of Parks-Commission, 1891, Worcester.

Report of Worcester Agricultural Society, 1890 and 1891.

Report of Worcester County North Agricultural Society, 1891.

Report of the President of Clark University, and Second Annual Register.

Address; Mayor F. A. Harrington's Inaugural, 1891 and 1892.

Speech of J. H. Walker.

Speech of Henry George; Protection or Free Trade.

Movement for Better Roads; Col. A. A. Pope.

Treatise on Economic Grasses; Dan. Batcheler.

How to Plant a Place; E. A. Long.

Worcester Town Records, 1795 to 1800; 1801 to 1805; 1806 to 1810, and 1811 to 1816.

The Silva of North America; a description of the trees which grow naturally in North America, exclusive of Mexico. By Prof. Charles S. Sargent. Illustrated with figures and analysis drawn from Nature, by Charles E. Faxon, and engraved by Philibert and Eugene Picart; Vols. 1, 2, 3, 4. Dewey Fund.

The Trees of Northeastern America, by Charles S. Newhall. Society.

Carnation Culture, by L. L. Lanborn. Society.

Utah, by C. C. Smith.

Journal of Horticulture; English; Vols. 22, 23 and 24; new series; bound.

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Worcester Commercial, 1892.

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Agricultural Gazette, English, 1891 and 1892.

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Gardening Illustrated, English, 1891 and 1892.

Gift from S. B. Woodward, M. D.:

Transactions of Massachusetts Agricultural Societies, 1847.

Address before the Essex County Agricultural Society, February 21, 1820; Timothy Pickering.

Fourth Report of the Agriculture of Massachusetts; Franklin and Middlesex Counties.

The New American Orchardist; Ornamental Trees, Shrubs and Flowers, 1835; Wm. Kenrick.

American Fruit Book, 1849; S. W. Cole.

The Cultivator; Vol. 2, 1835 and 1836; New York State Agricultural Society.

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Transactions of Worcester Agricultural Society, 1844 and 1865.

First, second, third and fourth annual reports of the Agriculture of Massachusetts; bound in one vol.

Reports of the Essex County Agricultural Society; 1831 to 1838, inclusive.

European Agriculture; Henry Coleman.

Vol. 1, bound.

Parts 6 to 10, inclusive, of Vol. 2.

Transactions of Hartford County (Conn.) Agricultural Society; 1843 and 1844.

First Annual Report of Monroe County Agricultural Society; 1842 and 1843.

Gift from Mrs. A. B. R. Sprague:

Vick Magazine; Vols. 2, 3, 4 and 5, bound.

Vols. 7, 10 and 11 complete, unbound.

Vols. 6, 8 and 9; one number lacking in each.

January and February of 1889.

Census of Massachusetts, 1885; Part 2, Vol. 1, and Vol. 3, bound.

Manual of General Court, 1880.

Gift from Edward W. Lincoln:

Fruit and Fruit Trees of America; edition of 1846, with colored plates.

Transactions of Worcester County Horticultural Society, 1847 to 1868; calf bound.

All which is respectfully submitted

[by]

ADIN A. HIXON,

Librarian.

13th January, A. D. 1893.

ESSAY

BY

O. B. HADWEN, OF WORCESTER.

Theme:—Deciduous and Coniferous Trees.

Mr. President:

I do not propose in the following remarks to discuss the questions of planting trees, either for shelter, or shade, or ornamental effect, only; but to encourage their planting in country places or on farms, and on the roadsides, and to influence the true lovers of rural life to make their homes and surroundings more pleasant and more valuable with tree planting, and induce, if I can, the care of trees at all stages of growth. It will be impossible, at this time, to designate all our beautiful trees even by name, but I will confine my remarks to the most prominent kinds.

The subject allotted me for this meeting is "Deciduous and Coniferous Trees." Thirteen years ago I spoke of trees to this Society, describing those sorts generally used in ornamenting grounds, both public and private; the great variety of trees indigenous to this country, with the addition of the vast number of foreign introduction that thrive so well in this climate, affording the lovers of nature and those who have a cultivated taste ample scope for full enjoyment. Trees are at once the finest objects of grandeur and beauty in the vegetable kingdom. Both in summer and winter, in spring time and autumn, they are objects of interest; when the warm days in spring awaken the buds that have been dormant during winter, and the new-born leaf springs into life, and so soon develops into leaf, the rapid changes in all the shadings and tints of color, from the opening bud in the spring to the mature leaf of the autumn, giving charm to the landscape, wherever trees are planted or grown, to those who have an appreciative eye for the adornment and embellishment of grounds. Every

ACT OF INCORPORATION.

Commonwealth of Massachusetts.

IN THE YEAR ONE THOUSAND EIGHT HUNDRED AND FORTY-TWO.

AN ACT TO INCORPORATE THE WORCESTER COUNTY HORTICULTURAL SOCIETY.

Be it enacted by the Senate and House of Representatives, in General Court assembled, and by the authority of the same, as follows:

SECTION 1. John Green, Anthony Chase, Frederic W. Paine, George W. Richardson, their associates and successors are hereby made a corporation, by the name of the Worcester County Horticultural Society, for the purpose of advancing the science and encouraging and improving the practice of Horticulture; and, for that purpose, shall have all the powers and privileges and be subject to all the duties, liabilities and restrictions, contained in the forty-fourth Chapter of the Revised Statues.

SECTION 2. The said Corporation may, for the purpose aforesaid, hold real estate to the amount of fifteen hundred dollars, and personal estate to the amount of two thousand dollars.

House of Representatives, March 3, 1842.

Passed to be enacted.

SAMUEL H. WALLEY, Jr., Speaker *pro tem.*

In Senate, March 3, 1842.

Passed to be enacted.

JOSIAH QUINCY, Jr., President.

March 3, 1842. Approved.

JOHN DAVIS.

NARRATIVE

OF THE

WAY IN WHICH ITS FIRST SEMI-CENTENNIAL

ANNIVERSARY OF INCORPORATION BY LAW

WAS KEPT BY THE

WORCESTER COUNTY HORTICULTURAL SOCIETY,

MARCH 3, A. D. 1892.

WORCESTER, MASSACHUSETTS, U. S. A.

1842. 1892.

COMMITTEE ON PLAN AND SCOPE

FOR

FIFTIETH ANNIVERSARY.

Chairman, OBADIAH B. HADWEN, *Ex-President.*
GEORGE E. FRANCIS, " "
STEPHEN SALISBURY, " "
WILLIAM T. MERRIFIELD, " "
JAMES DRAPER, *Chairman Committee on Exhibitions.*

President, HENRY L. PARKER.

Secretary, EDWARD WINSLOW LINCOLN.

At the Annual Meeting of the Worcester County Horticultural Society, holden on Wednesday, November 5th, A. D. 1890, on motion of O. B. Hadwen, it was *Voted* that so much of the Report of the Secretary as relates to the matter of a celebration of the Fiftieth Anniversary of the Corporate Existence of the Society, be referred to a Committee of seven (7) inclusive of the President and Secretary, whose duty shall be to consider and report in what manner the Society can best celebrate such occasion. The Chair took time to select said Committee.

Subsequently, on March 12th, A. D. 1891, the President, formally notified the Secretary of his selection of the following gentlemen to constitute the Committee, viz.:

Obadiah B. Hadwen, *Chairman*,
George E. Francis,
William T. Merrifield,
Stephen Salisbury,
James Draper,

the President and Secretary being Members by the original vote of the Society.

And thereafter, at the Annual Meeting of the Society, on the 4th day of November, A. D. 1891, *Chairman* Hadwen made report of progress and asked that the Committee be continued, which was accorded.

He also submitted the subjoined votes:

1st, That the Society will celebrate the Fiftieth Anniversary of its Corporate Existence, on March 3d, A. D. 1892, by Literary Exercises and a Banquet:

2d, That eminent Horticulturists from other Societies be invited as guests:

3d, That the sum of $250.00 be appropriated towards the cost of such celebration:

And that the Committee be invested with full power to proceed and consummate all arrangements.

All which votes were unanimously adopted.

The morning of March 3d, dawned dark and gloomy. One of those storms that are christened by the expressive title blizzard, threatened to blast the hopes that had so long anticipated their perfect fruition on that day. But, nothing daunted, an audience, "fit though few," gathered to listen to the address of the President.

A little after 3 o'clock the invited guests were escorted to the platform in the main hall by James Draper, chairman of the reception committee and master of ceremonies for the occasion. Those on the platform included President Henry L. Parker, Secretary E. W. Lincoln, Vice-President O. B. Hadwen, Mayor F. A. Harrington, Col. Daniel Needham of Groton, President of the New England Society; Secretary Wm. R. Sessions of the State Board of Agriculture; Secretary Robert Manning of the Massachusetts Horticultural Society; Dr. George A. Bowen of Moosup, Conn., master of the Connecticut State Grange; E. W. Wood of Newton, chairman of the fruit committee of the Massachusetts Horticultural Society; President George Cruickshanks of the Worcester North Agricultural Society, of Fitchburg; Dr. H. T. Fuller, President of the Worcester County Polytechnic Institute; Librarian S. S. Green of the Worcester Free Public Library; Stephen Salisbury, Wm. T. Merrifield, Editor George M. Whittaker of the *New England Farmer* of Boston; J. G. Barker, superintendent of the Forest Hills cemetery of Boston. The front of the platform was decorated with handsome flowers, palms and rare tropical plants from the greenhouses of Stephen Salisbury, Esq.

At 3.15 the meeting was called to order by O. B. Hadwen, in behalf of the Committee on Plan and Scope, with the following introductory

ADDRESS BY O. B. HADWEN.

Members and Friends of the Horticultural Society; Ladies and Gentlemen:—

In behalf of our committee it becomes my pleasant duty, as their chairman, to call this assembly to order, the object of which is to fittingly commemorate the semi-centennial anniversary of the incorporation of the Worcester County Horticultural Society, and I cordially welcome you to take part and enjoy the proceedings, assembled as we are in this, our Horticultural Hall, which for nearly fifty years has been the headquarters in this city of some of the interests we have especially in keeping. From here have emanated the early progress and improvements in horticulture, also the popularity, wealth, influence and renown of the Society.

A half-century has elapsed since Dr. John Green, a man of noble deed, became the first president. Other presidents have followed him. They have spoken eloquent words of wisdom and encouragement, and have devoted a portion of their lives in advancing the progress and prosperity of this Society. They and other benefactors who laid the foundation of the Society now silently speak from the canvas adorning these walls. To-day the President of the Society will deliver the historical address.

I have the pleasure of introducing the Hon. Henry L. Parker of this city.

ADDRESS BY PRESIDENT PARKER.

Ladies and Gentlemen; Guests of the Society; and Fellow-Members:—

This is an auspicious day.

Within this luxurious and well appointed hall, itself an attestation of a noble work performed, and with the similitude of the kindly faces of its founders looking down upon us from these walls, in silent benediction, we are met to celebrate the fiftieth anniversary of the incorporation of this Society.

I have been designated to prepare for this occasion an historical sketch of its formation and growth during the half-century. I could have wished that this task had been assigned to other and abler hands,—to some one of our associates of longer service, who could date his active membership and work from the beginning, and who could flavor the pages of such an address with his own personal reminiscence,—who could speak like Æneas of old "of those things both which he himself has seen, and of which he was a great part." But since it has been otherwise decreed, let us hope at least, that at a later stage in this our Anniversary the "personal experience" of more than one such Semi-Centenarian may not be wanting, and that it will prove all the more racy and acceptable because unfettered by the written page.

The first step taken in the formation of this Society was in the fall of 1840. On September 19th, 1840, several gentlemen desirous of forming a Society for the advancement of Horticultural Science, organized by the choice of the following officers:

President.—Dr. John Green.

Vice-Presidents.—Dr. Samuel B. Woodward, Stephen Salisbury.

Recording Secretaries.—Benjamin Heywood, L. L. Newton, J. C. B. Davis.

Corresponding Secretaries.—William Lincoln, Dr. Joseph Sargent.

Trustees.—Dr. John Park, Isaac Davis, E. F. Dixie, S. D. Spurr, Thomas Chamberlain, Nathaniel Stowell, A. D. Foster, Lewis Chapin, J. G. Kendall, Emory Washburn.

Of this number only one, J. C. B. Davis, so far as I know, is now living.

John Chandler Bancroft Davis, now of Washington, D. C., was born in Worcester, in 1822. He was United States Secretary of Legation at London from 1849 to 1852, Assistant Secretary of State from 1869 to 1871 inclusive, and from 1873 to 1875 inclusive. Was United States Minister to Germany in 1875, and in 1877 was appointed Judge of the United States Court of Claims.

Dr. John Green, the first President, will be recognized as the munificent founder of our Public Library.

Dr. Joseph Sargent, but recently deceased, was for many years the leading physician of this city, and was at his death a Trustee of Clark University.

Emory Washburn, made Governor of the State in 1854, became later in life a distinguished jurist and author.

Most of the remainder will be recognized by the older members of this Society, as among the most honored citizens of Worcester.

But of all this list of officers no one was more active and efficient than William Lincoln, brother of Governor Levi Lincoln, and the historian of Worcester. He was "*par excellence*," the founder of the Society. He seems to have first conceived the idea of such an organization and brought it to a successful issue. And in the accomplishment of this purpose he was indefatigable. His enthusiasm and energy knew no bounds. He not only enlisted the sympathy and co-operation of the leading citizens of Worcester, but secured aid from the Massachusetts Society. Through his efforts generous contributions were sent by members of that Society to the first exhibition, helping to make it what it proved to be, a marvellous success. The origin of this movement seems to have been a protest on the part of certain members of the Agricultural Society who were devotees of Horticulture at the utilitarian spirit of the managers of that Society. The same "worldliness" which to-day makes the ploughing match subordinate to the claims of the trotting horse at that time ignored the finer products of the garden.

Apples, and certain products in the vegetable line, were treated with some consideration, but flowers and other fruits received little notice or encouragement. They were relegated to some

obscure corner with the crazy quilts and other fancy work of the ladies.

Thus does history repeat itself.

The first exhibition of the new organization was held on the 13th, 14th and 15th of October, 1840, the 14th being "cattle show day."

The *National Ægis* for October 14th, 1840, says:

"The first exhibition of fruits and flowers by the Worcester Horticultural Society commenced on yesterday at the South Town Hall.

"The Society was formed by a few individuals who were desirous of aiding with their efforts in the improvement of the cultivation of the orchards and gardens and who wished to contribute by such means as were in their power for the common benefit.

"The possibility of making a good exhibition was doubted by many. The undertaking was considered as hopeless by some; and was openly opposed by two individuals alone; but it went on without their help and against their influence.

"Our citizens were not aware of the extent of their own resources, nor of the generosity of those friends from abroad who have contributed with a free-heartedness and liberality beyond all expectation and above all praise which words can convey.

"The exhibition was opened on Tuesday morning and was as magnificent as any which has ever before been held in New England."

On the fourth of July, 1841, an exhibition of fruits and flowers was held. Strawberries, cherries and gooseberries were exhibited. The principal cherries were the Black Tartarian, Black Eagle, White Bigarreau and Black Heart. The varieties of strawberry were Methven Castle, Alpine and Keen's Seedling.

The Annual Exhibition for 1841, was held on the 27th of October. The report of Wm. N. Green, Chairman of the Committee on Fruits, may be found in the *Massachusetts Spy* of that date. During the winter of the succeeding year upon the petition of the Society, an Act of Incorporation was passed by the General Court and approved by the Governor, on the 3d March, 1842.

Thus fifty years ago to-day was this institution launched upon the world as a corporate body. Since that time what momentous events have transpired. One and a half times the total population of the globe has been harvested by the grim destroyer, death. Eighteen new States have been added to the American Union. Our population has increased from 17,000,000 to more than 60,000,000. The mineral resources of California and the West have been discovered and developed. The slaves of the South emancipated. Great wars have been fought which have changed the map of Europe and the world. Discoveries and inventions in electricity, in physics, in physiology, in medical science, in chemistry, have revolutionized society.

The city of Worcester was at that date a modest shire town of 8,000 inhabitants, with its Board of Selectmen and other town officers—with seven churches and three meeting-rooms, where to-day are sixty houses of worship.

Instead of those noble institutions of learning which now dot our hills and make our city famous; instead of those elegant structures for the public schools with a small army of instructors; instead of facilities which fill the whole course of scientific and professional study as well as post-graduate pursuits in special lines; the educational advantages of Worcester were limited to twenty modest school-houses, with about two dozen teachers, and a few private schools.

Changes almost as great have been the fortune of this Society. It started with a name but without a local habitation, and without the funds wherewith one might be obtained.

During the first few years of its infancy it seems to have led a nomadic life, anchored to no particular location but renting the most convenient hall, as the time approached for holding its annual exhibition. At these annual exhibitions no premiums were awarded, or if awarded none were paid. Its officers and committees served without compensation. Its only source of revenue for the payment of the rent for the hall of exhibition and the necessary incidental expenses came from the proceeds of the admission fee of twelve and a half cents. Whatever remained over from these proceeds, was carefully husbanded until in 1846, the sum of something like twelve hundred dollars

had accummulated. This sum was augmented by a generous bequest from Daniel Waldo of $3,000. With this fund as a nucleus a hall in Waldo Block on Main street was leased and its nomadic life ceased.

The financial affairs of the Society continued however to be carefully managed. Annual interest was added to principal, and the profits of exhibitions added to that, until in 1850, the Society bought its present location and erected the Hall which we now occupy and which is known as Horticultural Hall. The cost of the building however far exceeded the resources of the Society. It was for a long time heavily mortgaged, but the investment proved a good one in the end. The indebtedness was gradually reduced. Two generous gifts from Stephen Salisbury the elder, on two different occasions—one of $2,000 and another of $3,000 contributing largely to its reduction.

At last at the annual meeting in 1890, the Treasurer in his report made the pleasant announcement that the last installment of principal and interest was paid, and the Society free from debt.

But it was not for long. It became necessary for the preservation and proper management of the property to make some immediate repairs and certain alterations. To accomplish this purpose another small incumbrance was placed upon the Hall. The interest upon this investment however, will be more than met by the increased rental to be realized from enlarged and more convenient quarters.

The advancement of the science and practice of Horticulture which the past fifty years have witnessed, is no less marvellous than the other changes which have been going on about us. At the time of the organization of this Society, there were but six commercial florists in the whole of Massachusetts. To-day she has four hundred and seven, the annual value of whose plant sales is $594,000, and of its cut-flower sales $1,036,000.

In the entire United States at the date of the organization of this Society there were but thirty commercial florists. To-day there are 4659, the annual value of whose sales of plants amounts to $12,036,000, and its cut-flower sales to $14,175,000.

The value of these establishments is estimated at $38,355,000 and they furnish employment for over 18,000 persons.

At the date of the organization of this Society, there were in the whole United States, so far as can be ascertained, but one dozen nurseries for the propagation of vines, fruit trees, shrubs, and shade and ornamental trees. To-day there are in the whole country 4510 of such nurseries, giving employment to 27,787 men and women and to 14,200 horses. These nurseries are valued at $41,978,000—occupy 172,806 acres of land and have an invested capital of $52,425,000.

On the best estimate that can be made, based upon the consensus of the nurserymen, the grand total of plants and trees is over 3,000,000,000 of which 518,000,000, and some odd thousand are fruit trees, 685,000,000 and some odd thousand are grape vines and small fruits, and the balance, nut, deciduous and evergreen trees, hardy shrubs, and roses.

Grape culture, which, including the products of the grape—raisin and wine making—has become a great industry, representing a total value in lands, improvements, machinery, &c., of $155,661,000 and furnishing employment to 200,780 persons, has had if not its birth, at least its almost entire development during the past half-century.

In New York, the first shipment of grapes for the New York market from the Lake Keuka District, was made in 1845, and consisted of fifty pounds shipped by the way of the New York and Erie Canal. A shipment the next year of 200 or 300 pounds overstocked the market and there was no sale. In 1890 there were shipped from the same district to New York and other cities of the east 20,000 tons or 40,000,000 pounds of grapes. The total product of grapes of the entire country for 1889, was 572,139 tons or more than a thousand million pounds.

The raising of vegetables for the market has likewise within the same period grown into a mighty industry, in which capital to the amount of $100,000,000 and upward is invested—the annual products reaching to upwards of $76,000,000 and realized upon a little over half a million acres of land.

Celery and the tomato, which at the beginning of the half-century were but little known to the general public, are now

articles of universal use. Many gardeners make the cultivation of celery an exclusive pursuit.

As for the tomato, the consumption of this semi-vegetable and semi-fruit has become enormous. 350,000 boxes of them were shipped from the port of Norfolk alone in 1889, and 22,800 acres of land are devoted to its culture, almost as many acres as are required by the Irish potato, of which article of diet it has become a competitor.*

But to return to the more particular work of this Society. If we could reverse the wheels of time and transport ourselves back to the scenes of its earliest annual exhibitions we should be amazed at their crudity. I have been fortunate enough to find the original manuscript containing the list of premiums awarded at the first exhibition, held in October, 1840. This whole list of premiums for fruit, vegetables and flowers (this is the order in which they come) is contained upon a single page. Premiums are awarded for only five varieties of pears of which only three are named. For thirteen varieties of apples—and this (with a single premium for quinces and one for Isabella grapes) completes the list of fruits. Of vegetables there is but a single variety mentioned, the squash; and of flowers but one variety, the dahlia. As this document has never been published in the Transactions of the Society, it may be of interest to give it here entire.

"*List of Premiums Awarded by the Worcester County Horticultural Society, at their first Exhibition, October*, 1840.

To E. F. Dixie, Worcester, for best sample of Seckel Pear.
To Capt. Silas Allen, Shrewsbury, for best sample of Andrews' Pear.
To Doct. John Green, Worcester, for best sample of St. Michael's Pear.
To Doct. Burnett, for best sample of Seedling Pear.
To A. H. Green, Worcester, for best sample of Winter Baking Pear.
To Benj. N. Childs, Worcester, for best sample of Winter Greening Apple.
To Jonathan W. Stowe, Grafton, for best sample of Baldwin Apple.
To Samuel A. Knox, Grafton, for best sample of Hubbardston Nonsuch Apple.

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* The foregoing statistics have been largely gathered from advance bulletins of the census, 1890, which have been kindly forwarded to me by the Hon. Robert P. Porter, Superintendent of the Census.

To A. H. Green, Worcester, for best sample (Old kind) Nonsuch Apple.
To A. D. Foster, Worcester, for best sample of Blue Pearmain Apple.
To Silas Allen, Shrewsbury, for best sample of Roxbury Russet Apple.
To Geo. W. Rugg, Worcester, for best sample of Sweet Winter Russet Apple.
To Jona. Wheeler, Grafton, for best sample of Pommewater Sweeting.
To Dr. John Park, Worcester, for best sample of Porter Apple.
To C. W. Forbush, Grafton, for best sample of Dutch Codlin.
To Doct. John Green, Worcester, for best sample of Hamburg Apple.
To S. H. Colton & Co., Worcester, for best sample of Russett Pearmain.
To Clarendon Harris, Worcester, for best sample of Lady Apple.
To Philo Slocomb, Shrewsbury, for best sample of Quinces.
To Doct. Benj. F. Heywood, Worcester, for best sample of Isabella Grapes.

VEGETABLES.

To E. F. Dixie, Worcester, for best Crooknecked Squashes.
To John M. Earle, Worcester, for best Cocoanut Squashes.
To Levi Lincoln, Jr., for several Squashes.

GARDEN FLOWERS.

To Josiah Maynard, Shrewsbury, for best display of Dahlias.
To Mrs. A. D. Foster of Worcester, for next best display of Dahlias."

I quote also from the report of the committee on vegetables for that year, written by Rejoice Newton, the chairman. He says:

"The committee ask leave to report that the department of the exhibition which came under their particular examination was comparatively meagre, presenting few articles worthy of special attention * * *

"The first articles in the order of the Secretary's book, were Rohan Potatoes, offered by Gov. Lincoln, Gov. Davis, and John A. Kenrick, Esq., of Brighton—they are such as governors should produce. Men who grow to be governors, might reasonably be expected to grow great potatoes. The nutritious qualities of this species of potato have not been sufficiently tested in this part of the country to determine their value. It is pretty well ascertained that they are not fit for the table of horticulturists" * * *

"Two beautiful boxes of honey were exhibited by Mr. Henry Snow of Shrewsbury, and a plate of the same article was fur-

nished by Mr. J. A. Howland of Worcester. It might perhaps be questioned whether honey is a vegetable and within the jurisdiction of this committee, but until the Committees on Fruits, or Flowers or other articles can show that they have a better claim we may treat it as our own. * * *

"Cabbages, Carrots, Beets and Turnips are so usually found on the table together that the committee think they may as well make one good dish of them * * * they were offered by Abijah Bigelow, John W. Lincoln, John A. Kenrick and the Lunatic Hospital."

I quote also from the report of the committee on flowers.

> "And then the flowers,
> Oh! what a wilderness of flowers;
> It seemed as though from all the bowers,
> And fairest fields of all the year,
> The mingled spoil were gathered here.

"All around the eye was delighted—enchanted with the gayest, richest and most magnificent profusion of the choicest specimens of Flora's handy workmanship. Truly here were the emblems of youth, beauty and innocence. Ah! indeed, not only the emblems but the actual personifications of these graces were here. Who could behold such an array of magnificent beauty and not feel that he or she had been transported to

> "That city of delight in fairy land
> Whose streets and towers are made of gems of light and flowers."

When we come, however, to inquire further into the occasion of this rhapsody—this lavish use of the superlative—we find that it is all about dahlias. "The dahlia," say the committee, "justly styled the Queen of Autumnal flowers"—"the dahlias were the most numerous and constituted the most important portion of the exhibition of the flowers." Oh most lame and impotent conclusion! "From the sublime to the ridiculous," said the great Napoleon, "there's but a step." Imagine the florist of to-day styling the dahlia "Queen of Autumnal flowers!" Or imagine a grand annual floral exhibition of to-day in which the dahlia should figure as the most important factor!

And so for many succeeding years the exhibitions were of a like character. They were immense affairs. There was plenty of

enthusiasm, but it was zeal without knowledge. It was like the earliest attempts of the Sandwich Islanders to wear the garments of civilization. The grotesque was in the ascendant. System, order, symmetry, appliances, and a proper nomenclature were all wanting. Each happy proprietor of a button pear or seedling apple gathered them for the occasion, the windfalls with the rest. These apples and pears were piled in pyramidal form upon circular plates, each plate indefinite as to the number it contained and presumably "deaconed." If the lower stratum of each did not hide from view one or more moth-stung specimens, it was the exception and not the rule. And each variety was named as suited the fancy of the individual contributor. There was the Hog-Pen apple, the Minister apple, the Big-Gal apple, the Praiseworthy, the White Sheep Nose, the Razzlenose, the Nuzzlenose, the Pig-nose, the Know-Nothing, the Abigail's Fancy, the Back-Door Seedling, the Limber-Twig Spice, the Crow's Egg, the Stonewall apple, the Cat-Head Sweeting. The same variety was often entered by several individuals under as many different names.

John Milton Earle, Chairman on Fruits, says, in 1843: "The correcting of the Nomenclature of Pomology must be an important object in the operations of the Society. It is no uncommon thing to find the same fruits under some half a dozen different names, and sometimes several different fruits under the same name." A committee on nomenclature, self-constituted or otherwise, soon went to work, brought order out of chaos, and rescued many valuable fruits from the oblivion into which they might have fallen by reason of their uncouth christening. One of its notable feats was to divest the Hog-Pen apple of its unsavory appellation and re-baptize it as the Holden Pippin, under which name and later under the name of the Holden it has held a front rank for these many years as a valuable fruit upon the Society's premium list, it having been placed among the best ten Autumn apples recommended by the Society for general cultivation. The evolution of the Pear and of Pear culture, so far as the City and County of Worcester is concerned, may be said to date from our first organization.

In 1863, the President of the Society, George Jaques, contrasting its then condition with its first beginning, speaks of the

first exhibition as a "confused collection of apples and pears of which only a very small number were designated correctly by name." And J. Henry Hill, then Chairman on Pears, speaking of the same subject, says: "Those who witnessed the first exhibition of the Society are the only ones who can fully appreciate the vast improvement made in the culture of the Pear. Twenty years ago few people knew of any varieties other than the 'Pound Pear' or the 'Button Pear,' as they were respectively called; and whoever was the fortunate possessor of a tree of either variety was the envy of the neighborhood. Beyond a few professional or amateur growers, the subject of Pear cultivation was never agitated or thought of."

I have already spoken of the five varieties of pears for which premiums were awarded at the first exhibition in 1840, only three of which were named. So also in the report on fruits for the annual exhibition of 1841 only five varieties of pears are mentioned, viz.: The Golden Beurré, St. Michael, Brown Beurré, the Iron Pear and Pears from the famous Endicott tree planted by Gov. Endicott. These were contributed by Wm. P. Endicott. The other contributors were all amateurs.

The report says, "Wm. N. Green, Esq., bound over for trial a basket of the Golden Beurré of Bilboa.

"A basket of Golden Beurré, one of Saint Michaels, and another of Brown Beurré were brought from the fairy grounds of Mrs. E. Salisbury.

"B. F. Thomas, Esq., brought a fine basket of *Saint Michael* (Pears to the Fair) though for our life we could not think what a 'gentleman of the green bag' has to do with a Saint. He had also good specimens of the Iron Pear, that old friend that sticks by us till May if not baked before."

Such was the condition of pear culture at the date of our incorporation. Its development began very soon after, however, and as early as 1845, a large number of varieties were shown, although confined to a few individual contributors. It was about this time that D. Waldo Lincoln, John Milton Earle, Samuel H. Colton, John C. Ripley, and George Jaques became specially interested in pear culture. The first three gentlemen named imported many foreign varieties. And Messrs. Lincoln and Col-

ton were proprietors of large nurseries. To John Milton Earle we owe the introduction of many valuable varieties, and among others, that "*ne plus ultra*" of late fall pears, the Comice. He experimented also in the production of new varieties of pears, and has left us as a monument of his labors in this direction "Earle's Bergamot," a pear of delicious flavor which stands to-day on the Society's list of premium pears. Mr. Earle devoted himself with a rare enthusiasm to the work of the Society. He was not only an authority in nomenclature, perhaps the best the Society could boast, but he was thoroughly versed in every department of Horticultural science—in floriculture and botany as well as in pomology.

Mr. Earle and D. Waldo Lincoln were for many years the two leading contributors of pears, and it is interesting to trace in the reports, their rivalship for the largest collection of named varieties.

In 1849	Mr.	Earle	exhibited	30	varieties;	Mr.	Lincoln,	34.
1850	"	"	"	47	"	"	"	63.
1851	"	"	"	31	"	"	"	53.
1852	"	"	"	69	"	"	"	85.
1853	"	"	"	53	"	"	"	94.
1854	"	"	"	59	"	"	"	79.
1855	"	"	"	84	"	"	"	104.
1856	"	"	"	100	"			

Mr. Lincoln being that year Chairman of the Committee on Pears did not apparently compete.

In 1857 Mr. Earle, 123; Mr. Lincoln, 105. And here the contest seems to have practically ended as the official position of both gentlemen after that date precluded competition.

And it was about this time that a free discussion began as to the utility of offering premiums for large collections, for the same policy had been pursued in regard to apples and vegetables as well as pears. Collections of 75, 80 and 90 varieties of apples by the same individual were not infrequent. And of vegetables there were collections of 30, 40 and, in one instance, 68 varieties. At one exhibition a member exhibited 150 varieties of potatoes. The natural result of this method was that the contributor of large collections being also a competitor for single plates or small

collections of best five or ten, would place his best specimens on the single entry or small collection list, so that the large collections were merely an aggregation of so many varieties of fruit or vegetables as the case might be, for the most part without individual merit. Moreover, it is apparent that in large collections, especially of fruit, but a very small proportion of the different varieties could be seen at their prime—covering as they must the seasons of late summer, early fall, late fall and winter. And it is also apparent that in the best of such large collections there must be many really worthless varieties. For no well-recognized pomologist of to-day would dare to risk his reputation, by undertaking to name 100 varieties worthy of cultivation by either the general grower or the amateur. In truth, the real benefit arising from the large collection policy was in revealing how few really good pears there are, how few really good apples, and how few varieties of any form of fruit which are really worthy of notice.

D. Waldo Lincoln began to be of that opinion in 1859, when in his annual address as President of the Society, he said: "Three years ago my orchard contained upwards of two hundred varieties. One hundred of them have since that time been swept off my grounds, leaving fifty more to follow as soon as the process of re-grafting can be conveniently accomplished. Below this number I do not deem it expedient in a large collection to fall and beyond it no one can go with any hope of an adequate return."

Premiums for collections continued to be awarded until about 1874, although the system was modified somewhat. The largest collection of pears being limited to 20, and of apples to not less than 25 nor more than 35.

In 1872, the Secretary of the Society denounced the classification system as meaningless and unprofitable, and urged its abolition. He continued his missionary work in this direction in subsequent reports until three or four years later the system was finally abandoned and premiums were offered thereafter for single varieties only.

It was at about this date also that improvements were made in the appliances used for exhibition. Stands for the floral displays

with their accompanying vases were procured. Also the rectangular dishes specially designed for and adapted to the exhibition of fruit. Within these dishes or plates, bearing (not as of old the name of the contributor) simply a number, each specimen reposes—not hiding the defects of some other specimen by being piled thereon, or having its own defects thus hidden, but with an individuality of its own, opened to the rigid scrutiny of a judge who is exacting because required to be so, and impartial because without motive to be otherwise.

Under these conditions and with these appliances, with the opportunity furnished each member through its weekly displays to observe every variety of flower fruit and vegetable in its season, flowers in full bloom and fruit and vegetable in full maturity, the influence which our Society has exerted not only upon its own members but upon the general public has been of a marked character. It has secured the cultivation of fewer varieties, but those varieties the best. It has directed care and attention to fruit while in the process of growing and ripening, and to the importance of requiring perfection in all specimens allowed to reach maturity. It has been largely instrumental in the creation of an æsthetic taste and the general diffusion of pomological knowledge. A visit to one of the Society's rose, strawberry or chrysanthemum shows, is a liberal education.

This Society has given special attention and encouragement to choice varieties of fruit which have originated in Worcester County. It has rescued from oblivion, named and given to the public, stamped with its approval, many such varieties of apples. One such variety is the Sutton Beauty, an apple originating in Sutton, named by the Society, and which in shape and color is almost the exact counterpart of the Hubbardston Nonsuch. There is every reason to believe that the Sutton Beauty was shown at the first exhibition in 1840, as in the report of the committee on fruits at that exhibition we find this entry, "'Unknown,' an apple shown by Major Tenny of Sutton resembling the Hubbardston Nonsuch."

Another variety is the Holden Pippin, now the Holden, originally called the Hog-pen Apple, of which I have already

spoken. This apple was shown under its original unsavory name at the exhibition of 1840, by Tilly Chaffin of Holden.

The Hubbardston Nonsuch originating in the town of the same name, was also shown in the 1840 exhibition by Samuel A. Knox, then of Grafton, but now of Worcester, and one of the four now surviving who were on the premium list of 1840.

There is also the Mother Apple which originated in Bolton.

The Leicester Sweet originating in the town of that name, one of the best, perhaps *the* best sweet apple of its season.

The Worcester Spy, an apple which originated in Northborough, and was named by the Society.

The Stockwell Sweet, a Sutton apple, of a handsome red color, very fair, and a late winter variety of superior quality. The original tree, what there is left of it (alive but no longer producing fruit), still stands in that part of Sutton known as "Eight Lots," the territory occupied by the first settlers of that town. The descendants of the original owner from whom the apple takes its name know by tradition that it was standing in the same spot in the year 1800, then a young tree and not in bearing.

There is also the Singletary Russet, also a Sutton apple.

The Sterling or Twenty Ounce, a native of Sterling.

The Dawson Apple, a new handsome apple, very promising, originated by our late lamented associate, Thomas A. Dawson, and named by the Society in his honor. Mr. Dawson had also other seedling apples with which he was experimenting and of which he cherished high hopes.

And still another apple which should be added to this list is the Russet Sweeting. The committee on fruits in their report for 1840, make this comment: "This apple we feel warranted in saying from good authority, is undoutedly a seedling variety from the farm of the late Dr. John Green, the first of that name in Worcester."

In accomplishing the work of the Society, the library has been a great auxiliary. The library or its nucleus, for at the beginning it could hardly be called more than that, was kept for many years in a single small book-case at the office at the Court House, occupied by Anthony Chase as County Treasurer. From thence it was removed to the rooms of Clarendon Harris, Secretary of the State Mutual Life Assurance Co.

In 1862, the same year in which weekly meetings were instituted, the library was removed to the room in Horticultural Hall, known as the Library or Hall of Flora, where it has since remained. The number of volumes at the time of its removal to Horticultural Hall in 1862, was 441. The present number is about 3,000 bound volumes exclusive of pamphlets and serials. No pains or expense has been spared to make this a complete working library of Horticultural and Botanical Science.

Among the notable works upon its shelves are:

The Floral Magazine (English) of 20 volumes.

Curtis's Botanical Magazine, an English work, containing over 2,000 plates, colored from nature, and complete in 74 volumes.

The Journal of Horticulture, an English work in 63 volumes.

Prize Essays and Transactions of the Highland Society.

The Scotch Journal of Agriculture.

The Cottage Gardener, an English Work.

The Agricultural Gazette, English.

The Gardener's Chronicle, English.

Paxton's Magazine of Botany in 16 volumes, English.

The Garden, English.

L'Illustration Horticole.

Revue Horticole, from 1855 to 1892, and comprising, 37 volumes.

Flore des Serres et des Jardins de L'Europe.

Meehan's Gardener's Monthly in 28 volumes.

Hovey's Magazine.

Country Gentleman.

Herefordshire Pomona.

Pinetum Britannicum.

Silva of North America.

At the weekly exhibitions the library proved an invaluable aid. Its books of reference were in constant use by the committees of the different departments of fruit, flower and vegetable, notably by the committee on nomenclature. As authorities of ultimate resort Downing and Leroy were thumbed as persistently as the schoolboy thumbs his Worcester or his Webster. In fact, it was largely by its aid that the Society was able so

early in its history to establish a fixed and reliable nomenclature, to weed out from its premium catalogue so many worthless varieties, and to present that list of few but choice fruits which for the past twenty years, it has (with but slight changes) recommended for general cultivation. But the literary work of the Society was not confined to its library.

Not long after the establishment of the weekly exhibitions, meetings were held at stated intervals for discussion. These discussions at first were extemporaneous, and in the main simply an interchange of experience and observation in fruit culture. And yet the writer can recall, in his own experience, no meetings of a like nature more instructive or edifying. Made so, because embodying, without surplusage or padding, but put in simple language and terse phrase, the results attained by years devoted to the study and practice of pomology by such enthusiasts as John Milton Earle, Geo. Jaques, Samuel H. Colton, James F. Allen, O. B. Hadwen, and many others both living and dead. These discussions eventually took a broader scope. In 1877 the practice was inaugurated of holding meetings during the winter months, at which papers or essays should be read, to be followed by discussions upon the theme presented by the essay. These essays embraced a wide range of subjects in floriculture, arboriculture, fruit culture, native or local flora, and in fact covered the whole ground of botanical and horticultural science. They were prepared and given partly by members of our own Society and partly by gentlemen from abroad, but always by those having a special and intimate knowledge of the subject treated.

In 1879 a series of botanical lectures was given under the auspices of the Society by Prof. George L. Goodale of Harvard University. In addition to this literary work, mention should be made of the annual addresses of the earlier Presidents, the valuable reports of committees, made before our present system was adopted, and later on the reports of our Secretary, who has for the past twenty-eight years presented an exhaustive annual review and summary of the Society's doings, together with suggestions as to its future policy, as well as a general outline of new results in horticultural science. All these papers and docu-

ments have been preserved and published in the Society's transactions, forming an instructive and material contribution on its part to horticultural literature.

But after all has been said of the work accomplished and the agencies employed, it is to the *men* this Society has been fortunate enough to have upon its rolls of membership that it owes its splendid success.

Governors of the Commonwealth, Judges of the Courts, men eminent in public and professional life, have been active members. The élite of the City and County as well as its brawn and muscle, have lent it their friendly aid, and have not scorned to sit in its councils.

But especially is it beholden to that devoted band of early members who supported the tottering steps of its infancy and stood by it through good and through evil report, until it reached maturer years: Earle, Colton, Jaques, that most noble triumvirate, high priests of that æsthetic shrine at which we worship; Paine, Haven, Harris, the Lincolns, Salisbury, Butman, Ripley—how the list might be swelled of the honored dead, long gone before, whose names within these walls are household words—who with an enthusiasm never dimmed, with a courage that never faltered, by word and deed, by financial aid, by wise counsel, by arduous and unrequited service have helped forward this great enterprise.

"They rest from their labors but their works do follow them."

We the living, who now fill their places reap what they have sown.

With these elegant Halls, with yonder choice library, with an assured and ample income upon a permanent foundation, with a membership united and fraternal, what forbids our saying with the Psalmist—"The lines have fallen to us in pleasant places; yea we have a goodly heritage."

But fellow-members let us not forget, that *with* this inheritance come added duties and an increased responsibility, "To whom much is given of them will much be required." Time has brought us changed conditions. Our work must run in different channels than of yore, but for the same ardor, the same

devotion, the same enthusiasm which graced our fathers there is still room.

We have passed long ago the primary and adolescent stage. We have mastered the rudiments. We are versed in the grammar of Pomology. We have traversed, in a fashion, the whole curriculum to which self-instruction and receptivity is more especially incident. And we have reached the broader plain of post-graduate investigation. Our work to-day is altruistic, humanitarian, diffusive.

To the fruits which cool the parched lips of the fever-stricken patient we are adding nectarian sweetness and ambrosial flavors. To the flowers which cheer the waiting hours of the invalid, which brighten the wedding feast, and rob death of its gloom, we are giving more brilliant colors and a sweeter fragrance.

If the lawns and grounds of our citizens have assumed an added grace and loveliness; if our streets and outlying avenues are lined with trees of grateful shade; if parks and public grounds have been set apart, to be adorned not with Phidian statues, but with forms of beauty fashioned by God's own hand; —what agency other than this Society has been more potent in these results. It created and nurtured that æsthetic taste without which these things had not been possible.

Let us gladly then take up the burden; with "Noblesse oblige" for motto, let us raise still high our standard. The age of receptivity is past. Not in self-seeking, not in the advancement of mercenary schemes and enterprises, not in treading the circle of our own selfish interests and petty ambitions, shall we best fulfil the sacred trust imposed upon us—but by a diffusion through every avenue in our power of the light and knowledge we possess, by furnishing to all who will partake, the wine and milk of this our Horticultural Art, without money and without price, by striving to make not only the earth but the lives of those who inherit it more beautiful.

Thus shall we in a broader and grander sense than our Founders ever dreamed, advance the knowledge and encourage the practice of this our noble science.

At the close of the address the President said :—

The Massachusetts Society has been the pioneer society in Horticulture in New England, if not in the whole United States, it having been incorporated earlier than any other which since its incorporation has had a continuous active existence. This Society has taken it for its example and followed in its train, though "not with equal steps." At our first organization we were indebted to the Massachusetts for aid and comfort, and to many of its members for contributions to its earliest exhibitions. The son of one of these early contributors, Mr. Robert Manning of Salem, now Secretary of the Massachusetts, is present as our guest and will address you as a representative of that Society.

ADDRESS BY MR. MANNING.

Mr. President; Ladies and Gentlemen of the Worcester County Horticultural Society :—

I am glad to be with you on this auspicious occasion and to be the bearer of the congratulations of the Masachusetts Horticultural Society on the results achieved by your Society in the fifty years of its existence, and its good wishes for your future prosperity. But I regret that the President of our Society is unable to be present and speak for it better than I can.

I am pleased, Mr. President, that in your interesting historical address you have recognized the assistance and support given by the Massachusetts Horticultural Society to your Society in its earliest days. I believe our Society has always been ready to promote the objects for which it was organized by answering the calls of new societies for advice and assistance, and nothing gives me more pleasure now than to answer such calls as far as is in my power. And I would remember here that we have been glad to adopt ideas which have originated with you.

As I have listened to your address, Mr. President, I have been struck with the parallelism in the progress of the two societies, especially in the financial department, both beginning with small means, husbanded with true New England thrift, until, as the result, you have this hall, so commodious and convenient in all its appointments and elegant yet tasteful in its decorations. The

possession of a home of its own is as great an advantage to a society as to an individual—it makes an institution of what was before but an association. I lately received a letter from a gentleman interested in securing a hall for the Royal Horticultural Society of London—to which we all look with respect as the parent and prototype of all horticultural societies—inquiring how the horticultural halls in this country have been provided, and especially in regard to the financial basis. I said in my reply that I expected soon to attend the semi-centennial of your Society and that I would communicate to him any information that I could gather here which would be of service to him. I mention this to show the far-reaching influence of your Society.

Your Society may well congratulate itself on the excellent library which it has collected, and which is probably excelled by few horticultural libraries in the country. This department is invaluable in promoting a scientific and practical knowledge of botany and horticulture.

At the risk of appearing to bring in personal matters I may say that in looking over the earliest publications of your Society I found that among the members of the Massachusetts Horticultural Society from whom contributions were solicited for your first exhibition, were gentlemen from Dorchester, Roxbury, Watertown, Brighton, and Salem. I thought it probable, from the mention of Salem, that my father—whose "Pomological Garden" there, contained the largest collection of fruits, especially pears, to be found in the country at that time, then coming into bearing—was one of the contributors, and I am assured by the veteran Secretary of your Society that my inference was correct, and that his contribution was made at the solicitation of his life-long friend, William Lincoln. Later contributions were reported from Salem in which my father probably had a share. I shall venture to mention one which I sent in 1846, after his death, which included specimens of the Paradise of Autumn pear, then a new variety having first fruited in this country two years before. It is recorded of the committee that consisted of George Jaques, Dr. John Porter of North Brookfield, John Milton Earle, and Capt. Silas Allen of Shrewsbury, that "the air of perfect satisfaction which overspread the countenance of one of

the committee while tasting this exquisitely delicious fruit was a higher commendation in its favor than we can easily express upon paper." Which of these gentlemen it was whose countenance beamed with such satisfaction the record saith not, but I think the probability is that it was John Milton Earle. It may be of interest to state that the tree which bore the fruit that produced such an effect on his countenance—making it, doubtless, even more benign than was its wont—is still standing and bearing fruit.

The mention of the name of Mr. Earle brings to mind the prominent members of your Society whom I have met or with whom I have had correspondence. Among whom I recall the names of William N. Green, George W. Richardson, Samuel H. Colton, Daniel Waldo Lincoln, Henry Chapin, Stephen Salisbury, and Charles E. Brooks. But, alas! these worthies are all departed and so are those two excellent ladies, Mrs. George W. Richardson and Mrs. Marshall P. Wilder, by whose side I sat at a festive gathering in this hall in 1871. I am glad to see upon these walls the portraits of some of these gentlemen, to whom your Society owes so much, and to know that their successors are following in their footsteps with unabated ardor.

But I have said enough unless it were better, and I can find no more appropriate conclusion than the words of George Jaques in closing the introduction to the first pamphlet printed by your Society: "May the series of these publications never end until New England's deserts shall rejoice and blossom as the rose."

President Parker:—I have now the pleasant privilege of introducing to you a member of the Massachusetts Society, who has visited us so often and done us so many favors as to seem almost like "one of the family," a friend of the family certainly if not a blood relation.

I have the great pleasure to present to you a gentleman who hardly needs introduction, a member of the State Board of Agriculture as well as an active member of our sister Society, the Massachusetts, E. W. Wood of Newton.

Mr. Wood, after pleasantly acknowledging the courtesy of the President, alluded to the astonishing advance of late years in the

science and practice of horticulture, particularly complimenting Worcester and Middlesex Counties for the lead they have taken in this direction. Referring to agricultural statistics, he said Worcester County stood the eighth and Middlesex County ninth in the amount and value of farm products in the whole country, Worcester leading in the value of agricultural products and Middlesex in the value of the farms. Speaking of the public parks and their benefits in the cities, Mr. Wood paid a graceful and well-deserved compliment to Mr. Lincoln, chairman of the Worcester Parks-Commission, for the zeal and perfection of his work in its public parks, of which the City might well feel proud. Elm Park, in particular, was an object lesson, the like of which could not be excelled in the State for the beauty and artistic skill with which it is arranged in its winding paths and diversified attractions, natural and artistic.

President Parker :—We have with us another old friend. It has been said that Horticulture is the handmaid of Agriculture. I have the honor to present to you Hon. Wm. R. Sessions, Secretary of the State Board of Agriculture.

Mr. Sessions, in responding to the sentiment spoke of the progressive influence of the Horticultural Society on the City, its tendency toward securing the proper care of the parks and streets, and the happiness and pleasure of the people generally. He highly complimented the Worcester Society on the possession of such fine quarters.

The President then called upon Mr. J. G. Barker, Superintendent of Forest Hills cemetery, Boston, who after congratulating the Worcester Society on the results of its fifty years' work, spoke of landscape gardening as applied to cemeteries, instancing Forest Hills in Boston and the beautiful cemetery at Cincinnati as fine examples. He would do away with displays of marble and granite altogether.

Dr. Homer T. Fuller, President of the Worcester Polytechnic Institute, was the last speaker of the afternoon. He dwelt at some length, and encouragingly, upon the great influence exerted

by Agricultural and Horticultural Societies in promoting the best interests of the communities in which they exist.

The President announced that a recess would now be taken till the supper hour (6.30), to give those present an opportunity to inspect the alterations of the Hall and, what was more desirable, to become better acquainted with each other.

BANQUET.

Committee of Reception.

Edward L. Davis.
Nathaniel Paine.
Oliver B. Wyman.
Charles A. Chase.
Frederick G. Stiles.
David L. Fiske.
Calvin L. Hartshorn.
Frederick A. Blake.
Charles E. Parker.

An hour or more was pleasantly occupied in the Library and Parlor, the revival of old memories and the formation of new friendships consuming the time almost imperceptibly. But promptly at 6.30 o'clock, Master of Ceremonies, James Draper, assumed direction ; and under his facile guidance, the numerous company which had been rapidly gathering since the abatement of the storm, descended from the Hall of Ceres to that of Flora, on the ample floor of which a double line was formed that extended nearly around the Hall. With characteristic promptness Mr. Draper started the procession which, with President Parker and Mayor Harrington at its head, ascended to the supper-room, Bicknell's Orchestra, that was stationed in the gallery, playing a march in unison. Every seat in the main Banquet-Hall of Pomona and Vertumnus, as well as in the Annex, was quickly occupied. The Officers and Committee, with the principal guests of the Society, were seated in the following order

at a table which ran across the head of the Hall, at a right angle with the others :—

George Austin Bowen.	. . . . . William R. Sessions.
Daniel Needham.	. . . . . E. W. Wood.
G. Stanley Hall.	. . . . . George Cruickshanks.
Edward Winslow Lincoln. . .	. . . . . George M. Whittaker.
President Henry L. Parker. . .	. . . . . Robert Manning.
Major Francis A. Harrington.	. . . . . John G. Barker.
Rev. Austin S. Garver. . . .	. . . . . William T. Merrifield.
Stephen Salisbury.	. . . . . Homer T. Fuller.
Nathaniel Paine.	. . . . . J. Lewis Ellsworth.

Obadiah B. Hadwen. ═══ James Draper.

After the company had been arranged, grace was invoked by Rev. Austin S. Garver, of the First Unitarian Parish. Thereafter, to the accompaniment of cheerful music by the Orchestra, assiduous attention was devoted to the *Menu*, which is inserted here because of the taste that characterized its happy composition and as well for the guidance of our successors A. D. 1942 :—

BANQUET.

HALL OF POMONA AND VERTUMNUS.

6:30 O'CLOCK, P. M.

"To say you're welcome were superfluous. Prepare for mirth, for mirth becomes a feast; you are princes and my guests."—*Shakespeare.*

MENU.

L. J. ZAHONYI, Caterer.

ESCALLOPED OYSTERS.

CHICKEN SALAD. LOBSTER SALAD.

TURKEY.

HAM. TONGUE.

MASHED POTATOES.

"Here will we sit and let the sounds of music creep in our ears."
—*Merchant of Venice.*

"Ay, but hearken, sir: though the chameleon Love can feed on the air, I am one that am nourished by my victuals, and would fain have meat."
—*The Two Gentlemen of Verona.*

Ice Cream.

VANILLA. STRAWBERRY. CHOCOLATE.

FROZEN PUDDING.

ASSORTED LOAF AND FANCY CAKES.

Fruit.

APPLES. GRAPES. ORANGES.* BANANAS.

COFFEE. TEA.

ROLLS.

INFORMAL POST-PRANDIAL EXERCISES.

"Serenely full the epicure would say,
Fate cannot harm me, I have dined to-day."
—*Sydney Smith.*

COMPLIMENTARY.

*These Maltese Oval Oranges were presented by our fellow-member, William H. Earle, and were grown at his Wachusett Groves, Tangerine, Florida.

When the company had "eaten and were filled," President Parker rapped to order and said:—

I wish it distinctly understood at the outset that I am not going to make another speech. It was said of Orator Puff who had two voices, the one up high, the other down low, that one voice for an orator was surely enough. You are no doubt ready to endorse that sentiment with a slight change, and you would say "one *speech* from an orator is surely enough." But I *do* wish to utter a single word of welcome.

In behalf of the Society, I welcome all present here to-night, young and old, guests and members, the veteran semi-centenarian and the newly initiated to the festivities of this interesting and auspicious occasion. It comes but once in fifty years and I invite you all as you may not see another to make the most of it—to "make a night of it." And I call attention to the pleasant coincidence, that the Society is now for the first time since its construction in the occupation and enjoyment, as a Society, of its new Banquet-Hall. So that on this our fiftieth anniversary we are besides celebrating that event, also dedicating our new Hall.

We have many guests whom we wish to hear from, but as certain exercises are to follow in the Hall below, and as the feet of the more youthful portion of the audience are already "beating time in a sort of Runic rhyme," the speaking will be necessarily somewhat curtailed, and I hope that all whom I shall call upon will remember that "brevity is the soul of wit," and that those words were never more applicable than on this occasion.

Four Governors of the Commonwealth have been active members of this Society. Two of them were noted for raising great potatoes, and we invited the present Governor to join us to-night and raise what he is noted for—great enthusiasm,—but his other engagements prevented. Other distinguished guests whom we expected have been obliged from various causes to send letters of regret which I will call upon the Secretary, Edward Winslow Lincoln, Esq., to read.

Secretary Lincoln. The General Committee delegated three of its members to invite certain gentlemen, Honorary Members of the Society, or meriting such courtesy because of their profi-

ciency in Horticultural or kindred science, to grace the occasion with their presence. The form observed was as follows:

WORCESTER COUNTY

HORTICULTURAL SOCIETY.

WORCESTER, MASS., FEBRUARY 2D, A. D. 1892.

DEAR SIR:

THE WORCESTER COUNTY HORTICULTURAL SOCIETY PROPOSES TO CELEBRATE THE FIFTIETH ANNIVERSARY OF ITS INCORPORATION BY LAW, ON THURSDAY, THE THIRD DAY OF MARCH, NEXT, AT ITS HALL ON FRONT STREET.

AN ADDRESS, HISTORICAL AND NARRATIVE, WILL BE DELIVERED BY HON. HENRY L. PARKER, PRESIDENT OF THE SOCIETY, AT 3 O'CLOCK, P. M.

THE SOCIETY WILL HOLD A BANQUET AT 6.30 P. M.

WILL YOU DO THE SOCIETY THE FAVOR TO BECOME ITS GUEST ON THAT AUSPICIOUS OCCASION?

CORDIALLY,

HENRY L. PARKER,
STEPHEN SALISBURY,
EDWARD WINSLOW LINCOLN,
COMMITTEE ON INVITATION.

N. B. PLEASE ADDRESS ANSWER TO
EDWARD WINSLOW LINCOLN, *Secretary.*

Expressing the regret of the committee, in which you doubtless share, that so many of those for whose company we were heartily desirous, have been constrained to decline, I will proceed without further preface to the discharge of my present duty.

This Society has always cherished a natural pride in Worcester County, the home of the choicer fruits. Of those that originated here we have a right to boast of the Sterling, Mother, Hubbardston Nonsuch, Leicester Sweet, and Sutton Beauty. Also, among the products of our soil, have been Governors, in abundance and variety. While we may not claim the present incumbent of the Chief Executive Office, as a direct offspring from Worcester County, we nevertheless insist that His Excellency, a scion from old Princeton stock is a conclusive argument against the degen-

eration of species. I have the honor to read a letter from Governor WILLIAM EUSTIS RUSSELL:

COMMONWEALTH OF MASSACHUSETTS,
EXECUTIVE DEPARTMENT, BOSTON,
Feb. 8, 1892.

My Dear Mr. Lincoln: I have received the very kind invitation of the Worcester County Horticultural Society to attend the celebration of its fiftieth anniversary on the third of March. I regret exceedingly to say that a prior engagement, long since made, prevents my accepting its invitation. Regretting that I cannot be with you, and wishing most heartily for the continued prosperity of your society which has led a life so long and useful, I am, Very truly yours,

WM. E. RUSSELL.

The SECRETARY.—This Society, in its infancy, was somewhat lavish of its treasures, indulging in the extreme luxury of three Recording Secretaries at one and the same time. Across the wide gulf of a half-century, one of the earlier and the latest incumbents clasp hands, the sole survivors of all who ever held this office. I have the pleasure of reading a letter from my predecessor of "lang syne," who has lent lustre to high station and reflected credit upon his birthplace. These are the recollections of John Chandler Bancroft Davis, whilom Minister to Germany, and now holding a responsible judicial position at the Federal Capital:

HON. JOHN C. B. DAVIS.

WASHINGTON, Feb. 20, 1892.

Edward Winslow Lincoln, Esq.: Dear Sir—When I wrote expressing my great regret at being obliged to decline the kind invitation of the Worcester County Horticultural Society, I did not suppose that I could say anything further that would interest any member of that body, and I was rather surprised when I received your courteous letter, suggesting that I should try to recall some of the memories alluded to in that letter. If, in doing so, I seem to play the part of the garrulous survivor of his contemporaries, you have yourself to thank for it. When the first exhibition of the Society was held, in 1840, I had not reached my 18th birthday, and so may reasonably be supposed not to have had an active part in it. In fact, I do not remember that I had anything to do with it, except as a looker on, although you write me to the contrary.

The old town hall (Worcester was a town in those days, with gravelled streets and no paved sidewalks, except on Main street and possibly Pearl street and a part of Elm street)—the old town hall was about half the size of the building into which it was a little later converted. In the lower part was the main hall, in which the good people of the town did their voting. The

upper part was divided into two halls by a partition running longitudinally from east to west.

In the south upper hall, late in the summer of 1840, the ladies of the town held what, for want of a better name, was called a fair. The monument on Bunker Hill had then advanced rather higher than the New York monument to Gen. Grant has yet reached, but there it stopped, half-way up, just inside the old trenches of the revolution, which were then still visible. That was the "Tippecanoe and Tyler, too" year, and a great whig convention was to convene in Boston in September. The ladies of Massachusetts conceived the idea of taking advantage of the great assemblage to hold a fair to raise funds to complete the monument. The fair in the upper town hall in Worcester was held for the purpose of getting together materials to make the Worcester county table at the Boston fair a proper representative of the county. The leading and influential men of the town were there. Both your father and mine were there. So was Frederick W. Paine, a man of great reading and few words, a lover of flowers, whose garden ranked with your father's in completeness. So was John Milton Earle, the editor of the *Spy*, who, as I remember him, was devoted to horticulture, but especially to the culture of fruit. There was also your uncle, Wm. Lincoln, antiquarian, editor, lawyer, statesman, poet, a most public spirited citizen, a most lovable man; and Benjamin F. Thomas, young, brilliant, full of wit, giving ample promise of the future which he realized; and Col. John W. Lincoln, sober, sedate, with an eye twinkling with fun; and the two Greens—Dr. John and his brother James; and Stephen Salisbury the second, always interested in what was for the public good; and your brother Daniel Waldo Lincoln, in those days a practical horticulturist; and Alexander H. Bullock, then in the heyday of youth; and many others whom I will not stop to name. All, all have gone before, leaving you and me.

There was a display of flowers at the fair, unless my memory is at fault. The idea of a horticultural exhibition later in the season, in connection with the exhibition of the Agricultural Society, may have been suggested by that. Be that as it may, my recollection is that there was a connection between the two, and that the gentlemen whom I have named were actively interested in both. My recollection that there was a horticultural exhibition in that year is confirmed by your letter, which fixes October 14 as the date of it. As I have already said, I do not remember that I had anything to do with that exhibition. You say that I was on the "committee on paintings." I was certainly fitted to be an impartial judge of them, for I knew nothing about them. I do not remember serving on such a committee, nor can I imagine where paintings could have been found in those days in Worcester for exhibition, unless they were possibly the productions of a landscape painter who lived there for a few months about that time, and who afterwards acquired great and deserved distinction in his profession, George L. Brown.

As to the exhibition of the following year, 1841, I have no recollection about it. You express surprise that it should have been held in the "south end of the South meeting-house." I can suggest a theory which may explain that fact, if the parish records do not show dates which upset it. The old

town hall was enlarged that year, and the principal hall was placed upon the upper floor, thereby driving the Horticultural Society out of its former quarters. The Old South parish extended its church some thirty feet or more to the southward in 1835. It is quite possible that if that work was going on in October, 1841, the extension was covered in, but not yet incorporated into the auditorium of the church. If so it would have been adapted to the uses of the Society.

I must apologize for the length of this letter, which is greater by far than I intended when I began to write. I am, dear sir, very truly yours,

J. C. BANCROFT DAVIS.

The SECRETARY.—Turn what page you will of our history as a Society, you will surely find the name of Green. Whether it be Dr. John Green, our first President, Judge William N. Green, who found leisure in the intervals of meting out justice to hardened sinners, to render proper award in our service; of the younger scion of the family who, counted among our earlier exhibitors, has lived to achieve in wider fields the palm for eminent fidelity and usefulness among the very first citizens of our commercial metropolis; "by their fruits ye shall know them." I have the pleasure of reading a reply to your invitation from Hon. Andrew H. Green, for years Comptroller of New York; for yet a longer term Chairman of the Board of Park Commissioners of that city; who took active part in our early shows, and who maintains a lively interest in the efforts and prosperity of the Society.

HON. ANDREW H. GREEN.

NEW YORK, Feb. 12, 1892.

My Dear Mr. Lincoln: I have your invitation for the fiftieth anniversary of the Horticultural Society, and thank you for your kind remembrance. My engagements are such that it is quite impossible for me to accept with assurance that I could keep the appointment. It would be a great pleasure to be with you, and I regret to be constrained to forego that opportunity. With my compliments to your colleagues on the committee, and with sincere expressions of appreciation for your long, unselfish and intelligent devotion to the public interests of Worcester, I am cordially yours,

ANDREW H. GREEN.

The SECRETARY.—Among the Pomologists of the country, it may be doubted if John J. Thomas has known a superior. It is certain that his equal cannot be named since Marshall P. Wilder and Patrick Barry were subpœnaed upon that jury which is to determine, once for all, what really was the forbidden fruit! Our

heartfelt sympathy goes out to him in the imfirmities from which he has so long suffered, which were never potent to interrupt the disinterested devotion of a long life to the service of his fellow-men.

HON. J. J. THOMAS.

UNION SPRINGS, CAYUGA COUNTY, N. Y., Feb. 8, 1892.

Secretary Lincoln—Respected Friend: Please accept my thanks for your very kind invitation to attend the anniversary next month. I regret that I cannot partake of the pleasant and intellectual feast on that occasion, as long continued illness, in connection with chronic lameness, has nearly confined me to my room for several months past, and prevented all travelling, with no probability of recovery sufficient to attend.

Yours very sincerely,

J. J. THOMAS.

The SECRETARY.—The ranks of our Honorary Members are rapidly thinning. The list of those who were enrolled, but twenty years since, can now be told upon the fingers of one hand. Of those who are spared, but whose presence is unfortunately denied to us, the one more especially eminent all-round as a Horticulturist, whether from length of service or pre-eminent skill, is beyond question or rivalry, THOMAS MEEHAN, of Germantown, Pennsylvania. His life is so occupied with busy usefulness that he cannot even find leisure to visit us as he has long greatly desired. But let him speak for himself.

PROF. THOMAS MEEHAN.

GERMANTOWN, PENN., Feb. 12,1892.

Edward Winslow Lincoln, Esq., Secretary of the Worcester Horticultural Society; My Dear Mr. Lincoln—I assure you that it is with sincere regret that I feel I cannot accept the kind invitation to be present in your city on the third of March next. I find it next to impossible to now do many things that I would like to do, and many pleasant tasks are left wholly neglected or unfinished for want of time. Nothing would give me more pleasure than to be with the many friends whom I now have in your city, on the occasion if it were at all possible for me to be present. Very truly yours.

THOMAS MEEHAN.

The SECRETARY.—This Society has ever been chary of its honors, and has conferred Honorary Membership upon a very limited number. Among those who have merited such distinction and who have honored us by its acceptance may be named Mr. J. H.

Krelage of Haarlem, Holland. An invitation was duly mailed to him and only this morning I received a dispatch by ocean-cable in which was embodied the terse but cordial message,—"*Felicitate!*" If you will accept my interpretation, I should say that this might be taken for the Latin of *Oh be joyful!* (Great laughter.)

N. B. As this publication is designed to constitute a permanent and full record of an unusual occasion, it is thought best to insert here a letter from Mr. Krelage, which came to hand the very morning after the Festival, having by some post-official carelessness, been missent to Worcester, England. The mention of John Milton Earle, with its recital of the bill of somewhat old-fashioned bulbs, will attract especial interest.

HAARLEM, 23 February, 1892.

Edward Winslow Lincoln, Esq., Secretary to the Worcester County Horticultural Society, Worcester, Mass., U. S. A. of N. A.: Dear Sir.—I have been much pleased to receive your invitation to assist as guest at a banquet given 3 March next to celebrate the fiftieth anniversary of the incorporation of the Society by law.

If I had been free to dispose of my time, nothing would have been more agreeable than to go immediately to the steam-navigation office to take a ticket for the journey across the sea and to be present at the delivering of the address of your most honorable president and to join the happy members at the banquet.

As this, however, is impossible, I beg you to accept for the Society my warmest feelings and congratulations, expressing the hope and the convincement that the Society will yet for a long time be at the head of the Horticultural movement of America and may once celebrate the hundred's anniversary of the incorporation by law under the most agreeable auspices.

Then without doubt, when the roll of your members is made up, a great number of asterisks (*) will have to be added to those marked in your list of 1886, and many of those, who have now the warmest feelings for your Society, will perhaps be remembered only by their names on your roll. But such remembrance is of a great value.

In looking over your roll of members I was struck by that of Mr. John Milton Earle, as I suppose one of the founders of your Society, at least from the books of my firm I find that my father dealed, if not just half a century ago, just more than 48 years past with the same Mr. John Milton Earle and supplied him with a lot of Dutch bulbs; in later years this first supply was followed by a regular correspondence.

As I am proud to be able to prove such old relations of my firm with one of the most eminent horticulturists of your place and doubtless one of the most regretted members of the Society, I take leave to enclose a copy of the In-

voice sent over in 1844 to Mr. John Milton Earle by my father, perhaps this document has some interest to find a place in the archives of the Society.

I remain, dear sir, yours very truly,

J. H. KRELAGE,

H. M. W. C. H. S.

[Extract of E. H. Krelage's Invoice Book of 1844, Fol. 534.]

HAARLEM, 2 September, 1844.

Invoice of Goods for

JOHN MILTON EARLE, ESQ., Worcester, near Boston,

from E. H. Krelage, Haarlem, Holland.

J. M. E. No. 142, one case forwarded to

Messrs. WAMBERCIE & CROOSWYCK, Rotterdam.

100	Double Hyacinths, all colours, best mixed,	*f*	8 50
100	Single Hyacinths, all colours, best mixed,		7 50
50	Double Tulips, very best mixed,		2 00
100	Early Tulips, mixed very fine,		4 00
100	Tulips Byblœmen, fine mixed,		5 00
100	Bizard Tulips, fine mixed,		4 00
300	Ranunculus, double fine mixed,	2	6 00
2	Iris Susiana,		40
2	Hyac: plumosus,	15	30
2	" monstrosus,	20	40
2	Amaryllis lutea,	40	80
10	Couronne impériale mixed,	12	1 20
100	Double Anemones, best mixed,		4 00
20	" Jonquils,	12	2 40
100	Fritillaria meleagris, mixed,		2 40
50	Lilium martagon, best mixed,	9	4 50
2	Gladiolus Ramosus,	1	2 00
12	" Cardinalis,	12	1 44
12	" Bizantynus,	3	36
12	" Communis flore rubra,	3	36
12	" " flore alba,	3½	42
12	Double Tulips Tournesoll,	7½	90
	Case and package,		1 20
	Dutch Currency,	*f*	60 –

This amount was duly received.

The SECRETARY.—Of the gentlemen eminent for their proficiency in Horticulture, or for attainments in kindred science, who hoped until the last moment to be present or from untoward causes were constrained to decline, may be mentioned

William H. Spooner, President Mass. Horticultural Society.
James F. C. Hyde, Ex-President " " "
William C. Strong, " " " "
Francis Parkman, " " " "
John G. Massie, President Rhode Island " "
Joseph H. Bourne, Ex " " " " "
T. S. Gold, Secretary Conn. State Board of Agriculture.
Prosper J. Berckmans, President Am. Pomological Society.
Benjamin G. Smith, Treasurer " " "
Charles S. Sargent, Editor *Forest and Garden.*
Linus Darling, Editor *Massachusetts Ploughman.*
Adam W. Cheever, Editor *New England Farmer.*
Lieut.-Gov. William H. Haile.
Hon. John E. Russell.
Hon. Edward Burnett.

President Parker.—No occasion like this would be complete without the Mayor. Our present Mayor happens to be in full sympathy with us, because, besides being a first-class mayor he is a first-class farmer. It is hard to say whether he is a better mayor or better farmer. I have the pleasure to present *His Honor Mayor* Francis A. Harrington.

Mayor Harrington, upon rising, was greeted with hearty applause. He said he rejoiced to be present at the golden anniversary of the Society, and to bring the greetings of all citizens of Worcester. In the long years of its useful life the Worcester County Horticultural Society has builded for the good of the whole community. It has taught the people the charming study of flowers and the beauties of horticulture. All present would join him in hoping that the members of the Society would continue to have full faith in the future of their organization. That would mean, also, full faith in the future of the city of Worcester. The fifty years' life of the Society meant fifty years of honored service, of labor, of trial, of reverses and successes. The anniversary means, too, that the Society had become a part of the progress of this city, and when the wheels of time bring about a similar anniversary, may it find the Society as proud of its past as it is this evening. (Loud applause.)

President Parker.—The President of Clark University has done us the honor to become our guest. I present to you Dr. G. Stanley Hall, President of Clark University.

President G. Stanley Hall of Clark University said he certainly felt it a high honor for one who as yet was almost a stranger within the city's gates to be called on to take an active part in these most interesting proceedings. Although what he did not know about horticulture would make a very large book indeed, still he believed the study of flowers had an elevating and even a religious tendency upon a people. President Hall paid a high tribute to Secretary Lincoln, to whom the city of Worcester is largely indebted for his indefatigable labors as a popular educator in his especial line as a horticulturist. In closing he wished the Society another fifty years of prosperity and growth. (Applause.)

President Parker.—When a boy at Lawrence Academy, Groton, I used to see a young man of fine military bearing, a member of Gov. Boutwell's staff, and whom we boys used to think one of the greatest men in Massachusetts. He has held many honorable positions since that time, and is now President of the New England Agricultural Society, but we have always known him best as Col. Needham. He was Col. Needham then and is Col. Needham now, and Col. Needham has the floor.

Col. Daniel Needham, president of the New England Agricultural Society, said he had been familiar with Worcester for a long time, and he felt proud to do honor to one of Worcester's noblest institutions. This is, indeed, a wonderful city. He recalled the dark days of 1873, when, in his capacity as bank examiner, he travelled throughout the State. He found in that year depression everywhere till he came to Worcester. Springfield, Lowell, Lawrence and other towns in the State were all depressed and gloomy, but in Worcester all the manufacturing industries were going on prosperously, and general animation prevailed. He sought a solution for that great difference between Worcester and other industrial centres of the State, and he found it in the diversity of Worcester's industries. The Worcester County Horticultural Society must have been a healthy institu-

tion ; otherwise it could not have survived so many years with such unbroken prosperity. Its success lay in the thrift of its promoters. Thrifty men and thrifty institutions are always successful, simply because they are thrifty.

In closing Col. Needham congratulated the Society, the city and the commonwealth on having so able and so large minded a man as Edward Winslow Lincoln to lead off in the great work of promoting the popular study of horticulture.

President Parker.—The Editor of the *New England Farmer* has kindly consented to become our guest. I take pleasure in presenting to you Geo. M. Whitaker, Esq.

Mr. Whitaker responded briefly, expressing the pleasure that it gave him to be present, if only as proxy for Mr. Cheever, and his pride in being asked to represent the Agricultural press of New England upon such an occasion.

President Parker.—Another old friend, whom we are always glad to welcome has come all the way from Connecticut to see us, Dr. Bowen. He is one of the most versatile men in that versatile State. He can do almost everything. He is physician, farmer, pomologist, horticulturist and country gentleman. No man can tell you better how to build a country home. He is besides President of the State Dairymen's Association, and he thinks he knows how to cook, but his wife says it is the greatest trial of her life to have him think so. But he always makes a good speech, and I now introduce Dr. Geo. Austin Bowen, of South Woodstock, Conn.

Dr. G. Austin Bowen of Woodstock, Conn., and Master of the Connecticut Grange, said he saw before him the representatives of the best people that ever peopled the earth, the old Puritans of New England. (Applause.) Connecticut always looks towards Massachusetts for guidance in all things, as she regards her one of the grandest States of the Union. They look to Worcester also as the greatest nursery of horticulture in New England. Personally he owed much to Worcester, for it was here and through the good office of his worthy friend, Mr.

Hadwen (applause), that he received his first training as a horticulturist.

President Parker.—The name of Salisbury has been identified with this Society from the beginning, and to Stephen Salisbury the elder, the Society owes a lasting debt of gratitude for generous gifts upon two different occasions in time of need. I call for a few words from his son, Ex-President Stephen Salisbury.

Mr. Salisbury replied briefly to this sentiment, enlarging upon the idea that, after all, they had been the truest benefactors of the Society who had bestowed so freely and unselfishly of their labor and time throughout its entire history.

President J. Lewis Ellsworth was next called upon and responded to a sentiment in honor of the Worcester Agricultural Society. His remarks however, were uttered in such a low tone, that the reporter failed to catch the full import.

President Parker.—One of the first founders and the first President of the Society was Dr. John Green. He was also the munificent founder of another noble institution of which this city is justly proud, our Free Public Library. Its Librarian Samuel S. Green, Esq., is his nephew, and our guest. We would be glad of a few words from him.

Samuel S. Green.—Mr. President, there is a little love story in the Old Testament which has always attracted me. A country maiden has been taken away from her home and sweetheart and carried into the seraglio of King Solomon. She pines for her lover and her former surroundings. Without yielding to the temptations of luxury and glory she remains loyal to the past; and turning her thoughts backwards, and giving expression to her love for her shepherd lover, exclaims: "As the apple tree among the trees of the wood, so is my lover among the sons." In the loneliness of her confinement in the harem and dwelling upon the things in her past life that could give her consolation, she cries, "Comfort me with apples."

Mr. President, I do not think that the country maiden spoken of in the Song of Solomon had a keener appreciation of the

delicacy of the flavors of the choice fruits of the orchard than I felt when in the days of my boyhood I used to pluck from the trees in the garden of my uncle, the first president of our Society, Sopsavine apples and Williams's Early Red and eat them with the vigorous appetite and perfect digestion of our early years. My mouth waters to-night as I think of the juicy cherries and luscious peaches in Dr. Green's garden. I do not remember, sir, the St. Michael pears, specimens of which you stated this afternoon were exhibited at our first exhibition. I fear that the blight which came to trees bearing that kind of fruit in portions of New England had reached Worcester before the time of which I speak. I do remember, however, the delicious Dix pears that grew in Dr. Green's garden, and the Big Girl apples. The only complaint that I had to make in regard to the Dix pears was, that Dr. Green thought so much of them that he could not make up his mind to part with the crop until the fruit had begun to grow soft. When the pears came to his relatives they had to be eaten in a great hurry. Among the sweetest of memories are those of the flowers which occupied no small portion of my uncle's garden.

That was no ordinary garden. Dr. Green lived in a house on the west side of Main Street which had been built by his father, the second Dr. John Green. The garden began near the rear of the house and with considerable breadth extended almost as far as what is now Harvard Street. His grounds extended back, I should not dare to say how far over the crest of the hill along which Harvard Street runs into the valley beyond. I remember that I used to go to a meadow beyond North Ashland Street, which was a portion of his land or near it, in my boyhood, to pick the beautiful purple fringed gentian. I live, sir, on my uncle's and grandfather's grounds in the house which my father built on Harvard Street, the first house to be built on that street.

Mr. President, Dr. Green needs no eulogy. He inherited an aptitude for his profession from his father, grandfather and great-grandfather, all of whom were prominent as physicians in this part of the State of Massachusetts. He had a good general and medical education and an immense amount of that most valuable quality, known as common sense. When to the advantages belong-

ing to him at the start was added the rich experience gained in a long and extensive practice there was no man in this vicinity that could cope with him in the treatment of disease or the performance of operations in surgery. He had few peers in the Commonwealth or in New England.

I was present, Mr. President, at the supper of our Society twenty years or so ago. I remember, sir, on that occasion, regretting that Dr. Green, who had died a few years before, could not be present to see how prosperous the institution had become which he had helped to found and to congratulate the Society upon getting out of debt. Even more earnestly do I wish to-night that he were here to note the added prosperity which has come to our Society during the last twenty years and to congratulate us upon having just judiciously increased the debt of the Society. I wish also that Dr. Green could walk along Elm Street this evening and see how great the Public Library of which he was the principal founder has grown to be, and that he could know that it has become necessary to put up the beautiful building which has recently been erected there to house the books he gave to the City and which are being bought with the income of the ever-increasing fund which he left by will, and to accommodate inquirers wishing to make use of those books.

Mr. President, one more word and I will sit down. I have been wishing for thirty years to make an address to the Horticultural Society, and this is my first chance to do so.

It is more than thirty years since upon entering the Divinity School of Harvard College I was set to translating portions of the Book of Genesis from the original Hebrew, and made a discovery which I have desired ever since to announce to the members of this Society.

It was in reading the story of what is usually regarded as an account of the fall of mankind, but which seems to me to represent its rise from a condition of ignorance and innocence into one of knowledge of good and evil, in which state alone virtue is possible, that I unearthed the secret which I am now to reveal.

I had been taught that in the story referred to, it was narrated

that the serpent plucked an *apple* from the tree of knowledge of good and evil, and gave it to Eve, and that she after tasting it passed it along to Adam, who also ate of it. Thus, it was stated, sin entered into the world. But, Mr. President, I discovered that no such stigma attached to the apple in the story. The statement there is that the serpent took of the *fruit* of the tree of the knowledge of good and evil and gave it to Eve.

It gives me great pleasure to dissipate the delusion which has possessed us all, that the choice fruit of our orchards which we call the apple is represented in Genesis as the instrument through which man first began to sin. I do not know what kind of fruit the tree of the knowledge of good and evil bore. It is a tree that I am not familiar with. I do know that there is no reason in saying that Genesis represents it to be an apple tree.

Thank you, Mr. President, for the opportunity to deliver myself of the burden which has been lying so long as a weight in my memory and for reviving the memory of a man who was near and is dear to me and was both the first President of our Society and a benefactor of the city of Worcester.

President Parker.—The City and County could never boast of a man of more sterling character than Anthony Chase, for so many years the trusted and respected Treasurer of the County. He was our first Librarian and for nearly forty years an active member. I have the honor to present to you his son Charles A. Chase, Esq.

Mr. Chase said, in substance :—I recollect well the events of 1842, and the remembrance of the gentlemen who founded this Society is still a fresh one. Those were interesting times and those were interesting men. I will not recall their names. They were all gentlemen of high character, and when we consider their number as proportioned to the population of the town, I venture to assert that the array which they present has never been paralleled. Worcester is to-day a more prosperous, more enlightened, and more beautiful city because they lived here and helped to found our societies, our schools and our business enterprises.

I have at home what constitutes an interesting link between

those times and the present, in the shape of a Greengage plum tree, of transmitted stock from a famous tree which my father secured in the early "forties." I remember well that he once took a plate of its fruit to the horticultural show, and that on a visit to the hall I was frightened at the exhibit of many plates of so-called "Greengages," which were very much larger than ours. I felt, as they say now-a-days, that my father was "not in it." But an impartial committee came and saw and tasted; our delicious fruit melted in their mouths,—and took the first prize, for several years in succession. That same fruit still grows in my grounds, and is highly appreciated by the small boys of the neighborhood,—and the curculios.

What principle led our fathers and prompts us to beautify our homes and their surroundings, and to vie with one another in the development of the choicest fruits and the most beautiful flowers? It is not pecuniary gain; it is not the mere spirit of rivalry. I attribute it to the sentimental side of our nature. Do we not often see, as we drive in the country and pass by some farm of which the general aspect betrays the shiftlessness of the owner,—one little corner, near the house, where the overworked and much abused housewife, actuated by the sentiment which is not altogether crushed out of her life, has planted and cherished a little patch of flowers, the beauty of which shall throw one single ray of sunshine across her rugged path?

Mr. Chase read some extracts from the diary of William Lincoln, one of the founders of the Society, attesting his love of trees and flowers, and his enjoyment in planting them and watching their growth. He continued:—

I believe that sentiment existed in the Garden of Eden, as it exists to-day. It is sentiment that prompts us to celebrate such anniversaries as this one. Sentiment regards a graceful elm or maple as a more fitting ornament to a public way than is a telegraph pole. Sentiment cherishes and protects our public parks. It kept the post-office off of the Common, and it will never listen to any proposition to condemn the smallest patch of that priceless legacy of our fathers to any other use than as a place of assembly for the people in times of rejoicing or of

danger, as a training-ground for our milita, a breathing-place and a resting-place for the people.

President Parker.—The first Treasurer of the Society, F. W. Paine, Esq., was one of the first founders, greatly interested in the Society's success and husbanding its scanty resources with a careful hand. The inclement weather has kept away apparently those few earliest members still surviving from whom we expected some reminiscence of those early days and original founders, but Mr. Paine is represented here to-night by a near relative holding the same office as his honored ancestor, that of Treasurer of the Society. I present to you Nathaniel Paine, Esq., our Treasurer.

Nathaniel Paine. *Mr. President, Ladies and Gentlemen:*—After the very complete and interesting historical address of our President, there seems to be but little more that can be said of our early history, even if time would permit. This is an occasion for rejoicing over the growth and present prosperity of the Society after half a century of existence. Previous speakers have so freely expressed their pride and gratification in our progress, that I can add nothing in that direction.

My own recollections of the early days of this Society are certainly most agreeable and I recall with pleasure the annual fall exhibitions held in connection with cattle-show. It seems to me, Mr. President, that these exhibitions were more popular with the general public than the present plan of monthly or weekly exhibits, although they may not have been as productive of good to the interest of horticulture. I recall with pleasure the time when I was considered old enough to be allowed to assist in arranging the fruits and vegetables for these annual exhibitions. One of the first of these, that I remember, was held in the newly erected block on Main Street, just south of the residence of Dr. B. F. Heywood, at the corner of Central Street.

The first public exhibition of the Society held in 1840, was in what was then known as South Town Hall, other parts of the building being occupied by exhibits of the Agricultural Society—the annual cattle-show at that time took place on the Common.

The contributors at this first exhibition were largely members of the Massachusetts Horticultural Society, among whom, some of you, will recall the names of Wilder of Dorchester, Manning, and Cabot of Salem. The *Massachusetts Spy* of that date speaks in glowing terms of the exhibition of dahlias, which it calls the queen of flowers, and says they were surprisingly fine and were exhibited mostly by Boston growers. In 1841, the exhibit was held in the small room at the south end of the Old South meeting-house, then used as a vestry.

The first exhibition after the incorporation of the Society in the spring of 1842 was in the hall of the Society of Friends, over the jewelry store of Jos. Boyden and W. D. Fenno in the brick block opposite the residence of Daniel Waldo, one of our early presidents. This, I think, was the first exhibition advertised in the newspapers, a notice being inserted in the *Spy*, signed by Edwin Conant, Fred. W. Paine and Clarendon Harris, Committee, gentlemen for many years active working members.

In 1843, the exhibition was held in the new Central Exchange, the first building having been destroyed by fire early in that year. The next and the following year a room was secured near the Common in the brick block of Gale & Beach, No. 14 Front Street, on the lot next east of the present property of the Society.

The newspapers of forty and fifty years ago did not have much to say in regard to our local institutions and but little can be found in relation to the early history of this Society. It may have been with the intention of calling public attention to the first exhibition of the Horticultural Society that John M. Earle, editor of the *Spy* and for many years one of our most active members, spoke of a remarkable free-stone peach he had picked from one of his trees, which measured 9¾ inches in circumference and weighed 3 ounces (such specimens are seldom found in Worcester now), and a few days later mention is made of 51 citron melons grown from a single self-sown seed, the vine of which measured over 1,800 feet in length.

Dr. John Green, the first president, whom many of you recall as a successful physician and the founder of the Green Library, had extensive grounds in the rear of his house on Main Street, now covered with buildings, in which I remember were some fine old

pear trees, and he was a large contributor to our early exhibitions. Another gentleman also actively interested was Levi Lincoln Newton, one of the first recording secretaries. He was for a brief period cashier of the Worcester Bank, and for some years the popular commander of the Worcester Guards, organized in 1840.

If time would permit, I might allude to other early members who have contributed largely to the present prosperous condition of the Society, but I am afraid your patience may be already exhausted. I will only say in conclusion that the growth and present welfare of the Society is very largely owing to the constant interest and unpaid labor of these early members and founders.

That the Horticultural Society may become more and more an important factor in the educational interests of the City, and may more widely extend its usefulness, will be by none more earnestly desired than by myself, who unfortunately can do so little to bring about such wished for results.

President Parker.—I am admonished by certain pantomimic signs which the "Master of Ceremonies" has been directing towards me for the past fifteen minutes, that the time allotted for these exercises has expired.

We had hoped to hear from many other townsmen and guests who have honored us with their presence and especially from some of the original members. Only two or three of these have been able to be present, and of these Ex-President Merrifield made an early exit, and Ex-President Hadwen having addressed us this afternoon will not care to speak again; while our Secretary pleads "*autrefois acquit*," because of his somewhat premature call to duty a year since, and claims that he is *functus officio* on the present occasion. But before closing you will all desire to listen for a few moments to the accomplished Chairman of the Committee of Arrangements to whom we are greatly indebted for the success which has attended this celebration, Mr. James Draper.

Mr. Draper said, that it was evident from the hour of the evening it would be his duty, in the absence of the Rev. Mr. Garver, to pronounce the benediction. But before doing so he would say,

that while heartily appreciating the words of commendation of the President, the spirit of co-operation that had animated his associates on the committee, and the liberal action of the Society in placing ample means at their command, were the most important factors in this work.

It may be in keeping with the occasion, to make mention briefly of a little incident that occurred, in connection with the preparations I was making for this event. While in search for some little sentiments to use in connection with the Souvenir of this occasion, I unearthed a membership card issued by this Society to my father, Wm. A. Draper, in the year 1842, fifty years ago, and by a singular coincidence, that year also, marked my advent into this world. It is evident that my father intended to commence my horticultural training at an early age. Twenty-five years later I became enrolled as a member of the Society myself, and have consequently enjoyed its privileges for one half the period of its existence—and they have been privileges indeed. To sit in counsel with your Jaques, and listen to his enthusiastic description of some new fruit and his experiments in fruit culture; to walk with your Colton, and your J. Milton Earle, through this hall, again and again, and listen to their words of commendation or criticism at the specimens of fruit or flower on the tables, and in my early career as a nurseryman, to stroll with your D. Waldo Lincoln among the trees, shrubs and flowers, and gather from his lips the rich experience of years with the varieties most suited to our New England climate;—have left impressions stamped upon my memory that can never be effaced.

From the historical address of this afternoon, we are forcibly reminded that of the founders of this Society fifty years ago, not one is present to witness these ceremonies. Of the workers in the first twenty-five years of its life and activity, hardly a score are enrolled among the living. Upon us then, who have succeeded them in the varied lines of work in this Society, rests a great responsibility. Let us see to it, that no act of ours, or neglect of duty, whenever or wherever called, shall prevent the full attainment of that standard of Horticultural taste and improvement, that inspired its founders fifty years ago.

The formal exercises were here brought to a close at 9.30 o'clock. The younger members of the Society kept up the festivity with music and dancing, according to the following

Order of "Exercise."

"Frame your mind to mirth and merriment,
Which bars a thousand harms and lengthens life."
—*The Taming of The Shrew.*

MARCH AND CIRCLE.

1. Quadrille, *Welcome*
2. Quadrille.
3. Waltz.
4. Lanciers.
5. Portland Fancy.
6. Polka.

"On with the dance; let joy be unconfined.
No sleep till morn, when youth and pleasure meet."
—*Byron.*

"And soon as a dance has come to a close,
Another begins and each merrily goes."
—*Heine.*

7. Quadrille, *Caledonia*
8. Quadrille.
9. Waltz and Polka.
10. Lanciers, *Saratoga*
11. Quadrille.
12. Contra, *Virginia Reel*

"To all, to each, a fair good-night,
And pleasant dreams, and slumbers light."
—*Scott.*

Guided by the President, a group of veterans sought and found solace, after the labors of the day, burning that incense whereof hapless generations died without the inspiration. Tobacco is not a product of our local horticulture. But home industry takes it in the rough and so prepares it that it deserves and receives ready welcome in that secluded portion of the renovated Hall where alone can there be genuine consecration to Nirvana.

And now, *auf wiedersehen*, March 3d, A. D. 1942.

14th January, A. D. 1892.

ESSAY

BY

PROF. W. P. BROOKS, OF AMHERST.

Theme:—The Fruits and Flowers of Japan.

IN what I shall say upon the subject which I have chosen, I shall restrict myself chiefly to a consideration of the fruits and flowers which have come more or less under my personal observation in Yesso, the northernmost of the large islands of the Japanese empire, although I shall touch also briefly upon those fruits and flowers of the more southern portions of the empire with which I have become familiar. The wealth of material which even with these restrictions lies at my disposal is such as to lead me to fear that my paper may too much resemble a catalogue, and thus only weary your patience without exciting the interest which, from the nature of the subject, I have felt that some at least among you would take in it.

I shall notice first some of the most interesting among both the wild and cultivated fruits and flowers of Yesso, where I lived for nearly twelve years, and shall later speak briefly of some of the cultivated varieties of the south. Very many, probably nearly all of the wild species of which I shall speak, are found also in some parts of the more southern islands, in many instances on the mountains. How many are the cases I can recall when my hopes of having found something new have been shattered by the discovery that it had been previously collected in some mountain region of the south. Nikko, the celebrated site of the most famous mausoleums and temples of Japan, has proved the grave of many hopes of this sort. On reflection, however, it must be perceived, that in view of the

very mountainous character of the country, this is only what should be expected. When it is further remembered that the bodies of water separating the islands of the empire of Japan are nowhere wide enough to offer any great obstruction to plant distribution, and that ocean currents indeed lend themselves to the work, it will not be wondered that there should exist a great degree of similarity in the flora throughout the country wherever suitable differences in altitude counterbalance differences in latitude.

I am particular to bring out this point, because I must offer this peculiarity of the Japanese flora as an excuse for alluding, as I doubtless shall, to plants with which many among you are already familiar. Little has been written in English on the flora of Yesso—almost nothing if we except what our lamented Dr. Gray wrote, after examination of the collection of the Perry Expedition, a considerable part of which came from the vicinity of Hakodate, in Southern Yesso; but I am sensible that what I shall say, will probably in many cases, lack the charm of novelty, because of the peculiarity to which I have alluded. This however, has seemed to me unavoidable, for I am no specialist in either botany or horticulture. In common with most of mankind, I love fruits and flowers; I have known those of which I shall speak in their native haunts; I have loved them, and this must be my excuse for speaking of them. You will, I feel sure, under the circumstances, pardon the fact that some of my "coals are brought to Newcastle."

A brief glance at the position, size and physical peculiarities of Yesso, together with a few remarks upon the nature of its soil and climate, and some of the most striking peculiarities of its flora, must precede the mention of any of its special features.

Yesso lies off the coast of Siberia, from which it is separated by the Japan sea, which at the narrowest point between the island and the continent is about two hundred miles broad. The island of Sachelen, which is separated from the continent by a narrow strait, approaches to within about thirty miles of Yesso. The Kuriles on the north also afford a means of connection with Kamtchatka; and the larger Japanese islands, with smaller subsidiary chains, make plant immigration from Corea and

China a possibility. Thus Yesso is so situated that the way was open for the immigration of Asiatic plants from north, west, and south, and this fact, in connection with climatic and other peculiarities to be mentioned, accounts for the extraordinary richness of its flora.

Yesso lies between about 41½ and 45½ degrees north latitude; and, exclusive of narrow capes, extends from about 140 to 145 degrees east longitude. Its area is about 27,000 square miles,—a little less than the area of Ireland. According to Benjamin Smith Lyman, former Chief of the Geological Survey, the island has 7000 square miles of land suitable for farming, 6000 square miles of pasturage, 5000 square miles of forest, and 9000 square miles of mountains. He estimates that only about twenty-five per cent. of the total area is fitted for cultivation, and from personal observation I judge that even this estimate is too high. The face of the country is very mountainous and rugged, although there are a few broad plains and river valleys. The highest mountains attain an elevation of about 8000 feet, but the great majority range from 1000 to 4000 feet in height; and, except near the sea-shore where the trees have been cut off to supply fuel to the fishermen, they are wooded to their summits. The lower slopes, up to an elevation of about five hundred to one thousand feet, according to locality, are covered with a rich growth of deciduous trees,—maples, oaks, magnolias, cercidiphyllums, elms, lindens, cherries, and birches predominating. Above these altitudes conifers, chiefly two species of spruce, predominate. All these trees usually reach a large size. The growth is however, rather open and scattered as a rule, and the undergrowth is characterized by extraordinary luxuriance and density. By far the most abundant and important plant here found is a kind of bamboo grass (Arundinaria) which in places forms almost impenetrable thickets, varying in height from two or three up to ten or more feet according to the soil and altitude. The leaves of this plant are evergreen, and it constitutes a most valuable and nutritious pasturage for deer, and also for cattle and horses, which in most parts of the islands keep in good condition on it throughout the winter months. Horses are

especially fond of it and will eat it in summer in preference to English grasses. Prudent managers, therefore, during the summer months exclude them from the forests which are to be used for winter pasturage. At times the deep snows of winter quite bury this plant, but horses learn to dig for it, pawing away the snow to reach it. In this way they manage to keep in fair condition through the season. Where this Arundinaria grows it crowds out all other undergrowth. Only trees and climbers can contend with it. One is struck by the enormous number and variety of climbers, woody and herbaceous, both in mountain and plain-land forests. These contribute much to the appearance of tropical luxuriance and richness which every travelled visitor remarks.

Within the limits of an island of the size of Yesso is to be found, as might be expected, a great variety of soils. It is unnecessary to enter into detailed descriptions. Suffice it to say that the greater portion of these soils are still virgin. Until within the last twenty years the Japanese people had made no effort to occupy this territory. To them it was a *terra incognita;* to the minds of a race of tropical origin it was a dreadful, frigid wilderness, peopled with ferocious wild beasts and hairy men scarcely less wild. The Japanese fished upon its shores in summer, and a few dwelt there; but no attempt was made to settle in the interior. The virgin soil is in many places of considerable fertility notwithstanding the Japanese proverb: "*Shin den wadzuka ko ho-nen*," which means, "The crops on new land are small." The best will produce at first without manures about fifty bushels of corn, two and a half tons of hay, or four hundred bushels of potatoes per acre; but the soil is not strong, and soon needs manure. According to analyses, even the best is usually deficient in both phosphoric acid and potash, and there is a wide extent of territory, the soil of which, composed largely of volcanic scoriæ and ash, is very light and poor.

The climate of Yesso is in many respects not unlike that of New England; but it is more equable—a little cooler in summer and warmer in winter; and the air is more humid; the percentage of sunshine somewhat less. The yearly means of tempera-

ture at Sapporo, the capital of Yesso, in degrees Fahrenheit, from the year 1877 to 1886, inclusive, were as follows :—47.53, 44.79, 45.13, 45.51, 44.82, 45.19, 44.27, 42.69, 44.14 and 46.63. On two or three nights every winter the mercury registers from four to twelve degrees below zero ; the really hot weather of the summer is limited to one month, setting in about the middle of July. The autumn frosts are late in coming, seldom destroying even the most tender plants before the middle of October. The yearly precipitation—a large part in the form of snow—varied during the years of my residence between about thirty-three and fifty-five inches. The springs and early summers are dry ; the late summers and autumns are rainy. The snow fall is large ; the smallest in any winter of the twelve I spent there was nine feet ; the largest eighteen feet ; the average being about twelve feet. An important point, doubtless as effecting both the indigenous and introduced plants is this : the snow usually falls upon unfrozen ground, or at least the amount of frost is so slight that by the middle of January the ground, even in open fields, is free from it. Carrots, turnips, and potatoes are often left in the ground over winter and come out in spring uninjured. The soil in the forests can scarcely at any time feel the effects of frost.

Another important climatic peculiarity as affecting vegetation is the comparatively warm and wet autumn, succeeded at last rather suddenly by a heavy fall of snow and colder weather. Such a change usually finds the leaves still green on introduced apple, peach, and cherry trees, as well as on raspberry and blackberry bushes.

Those among you who are fruit culturists are familiar with the fact that such a state of affairs indicates wood still comparatively soft and immature, and unfitted to withstand the rigors of winter. You will not be surprised then to learn that certain fruit trees, usually hardy here, are there in most cases winter-killed. This fact, viewed in connection with certain peculiarities of the native flora, at first thought appears exceedingly puzzling. In the vicinity of Sapporo were large numbers of two species of magnolia ; the one *Magnolia Kobus*, chiefly in the low, moist lands ; the other *Magnolia Hypoleuca*, chiefly on the dry,

elevated plains or lower mountain slopes. On trees of both plain and mountain forests of the more open sort—chiefly on elms, alders and oaks—two species of mistletoe grew in the greatest profusion. On the mountains and in the swamps grew in abundance several species of tender annuals belonging to the gourd family; and in similar localities were to be found several other sub-tropical or warm temperate species not usually found in so high latitudes. And yet where these plants and the species of bamboo grass already mentioned flourished, the peach, the quince, and our hardy raspberries and blackberries were usually sadly winter-killed. Many times have I seen every inch of such trees and shrubs which protruded above the snow utterly destroyed; and often the roots only survived the winter. Why this apparent anomaly! Some of you are prepared for the assertion that the deep snows afford protection to the sub-tropical indigenous plants mentioned; and in so far as the tender herbs and bamboo grass are concerned this is doubtless the true explanation; but how with the magnolias and the mistletoe? Surely the snow cannot protect these, for the branches of other trees bearing the latter are far above its surface.

The explanation is doubtless this: the indigenous species have become inured to the climate: they are not deceived, if I may be allowed the expression, by the favoring warmth and moisture of the autumn. Winter's cold finds their buds and wood prepared to resist its destructive action. Not so the peach, the quince, and the berry bushes from America. The comparatively rich soil and the warm and humid air promote a rapid and long-continued growth which is readily destroyed by the too quickly succeeding cold. That this is the case is evident from the fact that these fruits are cultivated with a fair degree of success on the soils of the lightest and poorest description to be found in the vicinity. On the average soils of the island a requisite to the successful culture of these fruits is winter protection, which I found could be best given by simply bending to the ground and holding there in such a manner that the snows, which usually accumulated to the depth of three or four feet, would cover and protect.

Yesso is not particularly rich in indigenous fruits; compara-

tively few species are collected and used by the inhabitants to any great extent. Those most extensively used are the following: a wild strawberry, two species of raspberries, a chestnut, a walnut, a grape, and the *kokuwa*. Huckleberries, checkerberries, cranberries and blackberries although found, are, I think, nowhere abundant and are practically never made use of. Some two or three species of strawberries are found; but the only one of any importance is *Fragaria vesca*, which in some districts is so abundant that the manufacture of jam from the fruit was at one time an important industry. This jam, by the way, was particularly high flavored and delicious. I have cultivated this strawberry in my garden, and have found it unusually vigorous and fairly productive, the fruit being small to medium in size, whitish red when ripe, and very sweet and high-flavored, with a taste altogether different from that of our varieties. The chief reason, however, for my mentioning the cultivation of this berry, is to call attention to a peculiarity which I do not recollect to have heard of in any other variety. We have our so-called pistillate sorts in great number. This species, as I cultivated it, was functionally diœcious. A certain proportion of plants,—in my patch about one-third,—produced large flowers which contained large and perfect stamens but very small and imperfect pistils. These plants never produced any fruit; the flowers simply dried up. These plants were then practically staminate, although the pistils were not entirely aborted. The other plants produced smaller flowers with perfect pistils, and stamens which were much shorter and smaller than in the flowers on the first kind of plants; but even these stamens produced apparently perfect pollen. There was a little difference in the habit of growth and the general appearance of the two kinds of plants which, with practice, I judged would suffice to enable one to select either sort at pleasure. My departure from Japan interrupted the observations upon this most interesting plant that I had in view for determining numerous points which will occur to many of you, and my first attempt at importation proved a complete failure.

Of the raspberries, there were some three or four species commonly found; but only two were of practical importance. One

of these, *Rubus parvifolius*, is of a low, half-running habit of growth; the fruit is red but very loosely constructed and soft in texture. The flavor is good, but the impossibility of handling without reducing to a mush makes this fruit nearly valueless except to eat from the bushes. I have cultivated two other species in my garden. One of these of the same habit of growth as our common red raspberry but with unusually stout canes and suckering over-freely, produced small, seedy, black fruit of no value. The other, *Rubus phœnicolasius*, has the Black Cap habit of growth, the canes, in good soil, stout and tall, not requiring artificial support, but with unusually soft and harmless prickles. This is the species about which so much has been written within the past year under the name of Child's Japanese wine-berry. The fruit is produced in large clusters, is of fair size, and being of a beautiful translucent scarlet color, it presents an exceedingly attractive appearance. It is fairly firm. In flavor it is quite different from anything we have. There is less of the distinctive raspberry flavor and slightly more acid than in our varieties, and it is very juicy. Upon telling friends who visited my garden when the fruit was ripe, that I had brought it there to see if I could improve it, I was several times met with the remark "I don't see why you should wish to improve this," which perhaps sufficiently indicates its quality. I would not, however, over-praise this fruit. It is distinctly less rich than our common varieties and would not suit those especially fond of the raspberry flavor. It is, however, a hardy, productive, and beautiful species, which may prove valuable in its present or some derivative form. A peculiarity in its habit of growth should be mentioned; the growing fruit is entirely covered and protected by the reddish pubescent calyx until just as it begins to ripen. Whether from this peculiarity or because it is not so sweet, it is certain that this fruit was always remarkably free from worms, while American varieties in my garden were sadly infested. American varieties of both raspberries and blackberries do well there.

The Yesso chestnut, very abundant in many sections and much used by the aborigines of the island as well as by the Japanese, is in size and quality almost identical with the

American. It is altogether different from the large chestnut of old Japan. The Japanese have a proverb which says, translating literally, "The chestnut in three years, the persimmon in seven," indicating that trees of these fruits will become productive respectively in three and seven years. When planted in Yesso, however, the southern chestnut fails to justify its claims to such precocity, requiring usually fully twice the number of years just mentioned. The chestnut of Yesso can never be of any value here but the southern varieties, because of the habit of early bearing and the large size of the fruit, must prove valuable.

The Yesso walnut closely resembles the English walnut, but is inferior in both size and quality to the best specimens of that nut found in our markets. Neither is it anywhere very abundant.

The native grape is *Vitis Labrusca*, the same species, you will recognize, as our own common wild and cultivated varieties. In Yesso, however, the wild species does not vary as does our own. I have never seen more than one form, a medium to large bunch of small, hard, seedy, and very sour berries, of a purple or almost black color with comparatively little bloom. The vine is, however, remarkably rank and vigorous in habit. A specimen with stem fourteen inches in diameter was found near Sapporo, and I have many times noticed leaves nearly two feet across. If anything shall be discovered, able to withstand the phylloxera, or calculated to infuse new disease-resisting vigor into our failing vines, it would seem that we have it here in Yesso. Already French and Swiss wine growers have taken measures to test this vine.

Of that fruit, the Kokuwa *(Actinidio arguta)*, which is peculiar to Japan, and which finds its most perfect and abundant development in the primeval forests of Yesso, I presume you have all heard. Much has been written and said about it within the last few years; though, strangely enough from my point of view, it has been urged upon the public attention as an ornamental climber. Now far is it from my wish to detract from its merits as such. It is certainly a vigorous, not to say a rampant, grower, and its luxuriant dark-green leaves and

waving stems have a beauty of their own. For the purpose of covering arbors or "forming wild entanglements," as one writer has expressed it, from tree to tree it is certainly suited. Its effects upon the trees, however, I will not answer for; its coils I fancy will be found to hug "closer than a brother." Still it is a beautiful climber though I believe Yesso can furnish several more beautiful and far more manageable; but I would caution not to plant it against verandas or buildings. Unless looked after far more closely than most will find time for, it will be found to overgrow all desired bounds, to displace eave-spouts and to make itself a nuisance generally by its omnipresence.

It is for its fruit, however, that the plant is mostly prized in Yesso, where in many localities it is abundant and very largely collected. The fruit, which is a berry, runs in size a little larger than the Greengage plum; the skin is green; the pulp when ripe, soft; and the seeds, which are numerous, very fine. The flavor I cannot liken to that of any other fruit; it is very agreeable to most; but it is *sui generis*. There is an astringent principle in the skin, which must not be sucked too much or it will make the lips, tongue, and mouth sore. It is not difficult, however, to suck out the pulp without encountering this trouble. The effect of the fruit is decidedly but pleasantly laxative to most,—much more so than that of any of our fruits, not excepting the imported fig. It must prove a valuable acquisition even for this single quality, were it not moreover sufficiently delicious to repay eating. One attempt only has been made in Yesso to my knowledge to cultivate the fruit; but the plants for this experiment, collected before sufficient acquaintance with the botanical peculiarities of the species had been acquired, all proved barren. The species is polygamo-diœcious, and for fruit it must be propagated by cuttings from fertile plants. A second obstacle to its culture is the fact that a number of years must elapse ere the plant begins to be productive. Just how many would, however, be required from cuttings I am not prepared to say. Should the fruit under cultivation prove as good as when wild, it would be well worth a place in our gardens; and of course there exists a possibility that it may be improved. It flourishes best in moist soils.

A fruit which, from the extent to which it is collected and used in Yesso, perhaps deserves mention next, is that of the rose (*Rosa rugosa*) called by the Japanese "beach pear." It is so called, doubtless, from the fact that it is especially abundant on the upper reaches of sandy beaches. The hip of this species of rose, now not uncommon here, is usually large and handsome, as many of you may know. In size, it averages larger than the common crab-apple, and the color is deep scarlet. It is chiefly eaten by the children; though halved, seeded, and slightly salted, it is esteemed a delicacy by many adults. I have tasted it and found it really *not so bad as I had expected.* Its ornamental qualities are not lost sight of by the Japanese, who have fixed upon a special holiday in July when it is considered eminently the thing both to display this fruit and to partake of it.

A species of apple (*Pyrus Toringo*) is common all over Yesso. In rich lands the trees average about as large as crab-apple trees here; in poor sandy soils it is reduced to a shrub. The fruit is small; it will hardly average as large as the cranberry. The stem is long and slender, the shape that of our apple, and it is puckery and very sour. This species has been commonly used as a stock for grafting our American varieties and answers the purpose excellently. The trees began bearing at the age of about four years, and trees which begun to produce fruit abundantly about 1879, were still producing large crops of fine fruit annually, where well cared for, ten years later. At that time, where trees were planted twenty by twenty-five feet apart, the branches were beginning to meet, and the trees were still very thrifty. It is yet too early to say how long-lived such trees will prove.

There is no pear native to Yesso, but the earlier varieties of the pear commonly cultivated in Southern Japan (*Pyrus communis*) are raised to a limited extent. This is a fruit of magnificent appearance, large, obtuse, russet in color. In texture it is hard or breaking and coarse; in flavor sweet and insipid. A friend of mine has told me that once, in company, he likened these pears to "turnips in disguise;" but the company unanimously disapproved the comparison. They thought it was

unfair to the turnip. Still as a Japanese friend of mine once expressed it, "There is plenty of *teething* in these pears;" and this, doubtless is the great reason for the universal taste for them among the people. If you will believe me even educated Japanese persisted that they liked our pears best while they were yet of flinty hardness,—before, to my taste, the flavor was at all developed. You will not wonder that the apple was generally preferred to such fruit; but for the sake of the reputation of our pears you will be glad to know that the Japanese are slowly learning better when to eat them.

An indigenous plum—probably *Prunus tomentosa*—is of some value. The fruit is small and purple, and hardly suited for eating, but it makes excellent preserves. The stones are collected in large quantities, and the young trees used for budding with American sorts, which do well in Yesso.

The wild mulberry—*Morus alba*, I think, but of the species I do not feel sure,—is nearly everywhere abundant in Yesso. The leaf is much collected and used for feeding silkworms; and this species, which is perfectly hardy (while the Chinese variety is not), is extensively propagated and planted for the same purpose. The fruit is rather small, black, and very delicious in flavor; but it is not much used by the natives.

In some parts of Yesso there is found a wild currant (*Ribes Japonica*) the fruit of which I have never seen. It is said to be red; but is not used so far as I know. The racemes of flowers which I have seen are of remarkable length; in the dried specimens which I have here, the longest is fully seven inches in length. Should it be found possible to cross this species with our own, it would seem not unlikely that considerable improvement in this direction might be the result. In Yesso, unfortunately, a very large proportion of the fruit of this currant always blasted while very small. I have successfully imported this species and now have it alive in Amherst.

Although not fruits in the ordinary sense of the word, I want to allude to the Yesso hop and asparagus (*Humulus Japonicus* and *Asparagus officinalis*), both exceedingly abundant in many places; and both, I should think, promising, as a result of variation which usually follows the cultivation of wild species,

to produce varieties of value. In connection with asparagus should be mentioned also the Japanese *Udo (Aralia cordata)*, the spring shoots of which are used as we use those of that plant. This is also everywhere common in the rich woods of Yesso; it is also cultivated to some extent and is said to be really delicious.

The cultivation of both the American and the old Japanese varieties of the peach has been attempted in Yesso; but, as already indicated, with very poor success on account of the winter-killing, not of the fruit buds merely, but of the tree itself. The Japanese are not familiar with budding and, in Yesso at least, propagate wholly from stones. The old native sorts produce a very inferior fruit.

A kind of apricot is somewhat cultivated in Yesso. The tree seems to be perfectly hardy and enormously productive; but the fruit is small and inferior. There, at least, it is propagated wholly from the stones, and so far as I am aware there is but one variety.

With brief mention of one other Yesso fruit, I will leave this branch of my subject and pass on to consider some of the flowers of Yesso. This is the peculiar fruit of a species of conifer *(Cephalotaxus drupacea)* which grows as an undershrub in many of the mountain forests. This shrub is sometimes as much as eight or nine feet in height but usually rather less; and the female plants bear a stone fruit precisely like a plum in structure. It is of about the size of the common pecan nut; the flesh is proportionally about as thick as that of the plum and is very juicy and remarkably sweet, with a faint suggestion of the pine in its flavor. Really at present of no practical importance, it has actually seemed to me, as I have often jokingly said, that this fruit affords a rare field for the quack-medicine man. A rich natural syrup, with the flavor of the pine—what a chance for the production of a specific for throat troubles, coughs, and consumption! And then it comes from Japan—that magic land whence come—of all things—soap, which the Japanese never use, and sovereign remedies for corns, with which their shoeless feet are never troubled.

Of the flowers of Yesso I hardly know how to speak. In preparation for writing this paper, I looked through my collection of dried specimens, with the intention of picking out a few of the most attractive, and I find I have selected no less than sixty-four as worthy at least of mention. Now do not be alarmed—I am not going to detain you so long as this number would imply. I have decided that I must have looked with prejudiced eyes; and, while I have brought them all and shall be pleased to show and talk about them if any are interested, I have decided to speak formally of as few as possible and of these as briefly as I can.

In speaking of them I shall follow no definite rule of order. From memory simply, I have thrown those of similar characteristics together; and shall not, therefore, follow any exact systematic arrangement.

One of the most attractive of the very early wild flowers of Yesso is the *adonis amurensis*, a bright yellow flower which might appropriately in that country, be called the "eye of spring," for it peeps up sometimes even in February on sunny banks where the snow has melted away. Often have I seen it looking bravely up in the midst of a sharp snow-storm, and so hardy is it that such exposure scarcely seems to hurt it. It is a special favorite with the Japanese, who, however, seldom plant it in gardens; but are satisfied with seeking out the earliest plants and digging them while in bud for forwarding in old tin cans, broken teapots and the like. Regular markets as well as special booths usually offer such roots for sale in large quantities, and everyone who cannot dig for himself buys this which is the earliest harbinger of spring for the masses.

More delicately beautiful is the *Glaucidium palmatum*, a mid-spring flower, with large and particularly beautifnl almost translucent leaves and large, delicate, single pink flowers. This is the favorite of cool, shady dells and rich, moist soil. A horticultural friend of mine, writing a few years since, said that this very beautiful flower had not been introduced into Europe and America. It would richly repay care, but would undoubtedly be fastidious as to soil and surroundings.

The gorgeous beauty of the autumn woods, the monkshood

(Aconitum Fisheri), standing often fully six feet high, with enormous masses of brilliant blue flowers, is another of the Ranunculaceæ which must not be forgotten. It is of peculiar interest, both from its beauty and from the fact that the aborigines of Yesso extract a poisonous principle—aconite—from its root, using it to poison the tips of arrows which they employ in setting traps for bears. Two other species of aconite are found in the Yesso forests; but both are less beautiful and less common than the one of which I have spoken.

By far the most delicately beautiful of spring flowers in the vicinity of Sapporo is the *Corydalis ambigua*, with its fragile stems and leaves, and its lovely racemes of flowers, shading into the most exqusite tints and hues of blue and ultramarine and pink, and sometimes becoming almost white. The fragrance, too, of the flowers is wonderfully delicate and sweet. I should think this species and its rarer form with the lobes of the leaves linear might be cultivated quite easily, and if so they would amply repay the care bestowed upon them. The far more sturdy and quite different *Corydalis aurea* has also great beauty of its own. Both thrive in moderately light soils.

The Japanese primrose *(Primula Japonica)*, is everywhere common along the banks of streams and must not be forgotten. It is, however, I believe, well known to European and American gardeners, and is justly esteemed for its elegant habit and great beauty of flower.

I wish next to call your attention to the Yesso spiræas, of which there are a large number of species, several of which are of unusual beauty. I would mention as especially worthy of attention the species *aruncus*, *callosa and sorbifolia*—widely different each from the other, but any one of which would form beautiful clumps in a garden, or add grace and beauty to a bouquet.

I must not forget here the flower known to the Japanese as *hagi*—a species of Lespedeza, with pinkish flowers—which is celebrated in Japanese story and song, and is regarded as one of the eight beautiful wild flowers of autumn. Two others which are included by the Japanese in the same class stand next in my list,—*Patrinia scabiosæfolia* and *Platycodon grandiflorum*.

These are almost invariably found together in open sandy localities; and a beautiful combination they make either in field or bouquet—the Patrinia with its broad cymes of pale gold and the Platycodon with its large bells of heaven's own deep blue. You are wondering what are the other flowers which make up the magic number, and as these, with one exception, are also found wild in Yesso, I may mention them. They are the grass pink, the morning glory, a grass which has beautiful autumn plumes (*Eulalia Japonica*), the aster and the wistaria. The latter I have never seen wild in Yesso.

The dog's-tooth violet (*Erythronium Dens-canis*), with unusually large pink flowers, is a woodland beauty which grows in many places in extraordinary profusion; and excelling even this in abundance is the sweet lily-of-the-valley (*Convallaria majalis*), of which I have seen dozens of acres in one lot. This attains to great size and beauty here; and so well do soil and climate seem to suit it that in places it takes possession of the ground to the almost entire exclusion of other plants. It makes itself a great nuisance in pastures; and during my stay in Japan I was more than once consulted as to means of exterminating it, or asked whether some practical use could not be made of it. The beauty and the fragrance of such pastures, however, you can imagine.

A beautiful dark purple (the Japanese say black) lily (*Fritillaria Kamchatensis*) is rather rarely found, and it never fails to excite the liveliest feelings of admiration. I have known a Japanese to carry a bulb in bud or in flower more than a hundred miles on horseback to plant it in his garden. I have myself also tried to transplant it; but without success. It thrives in cool and shady localities and would certainly be highly appreciated should it do well under cultivation.

One other wild Yesso lily I must mention for it is of surpassing grace and beauty. I christened it the "fairy-lily." It is the (*Lilium medeoloides*) of Gray. It produces a very large whorl of leaves a short distance below the flower, which peculiarity causes the Japanese to call it the "wheel-lily." Good specimens produce as many as a dozen of the most dainty lilies

I have ever seen. The general color of the perianth is orange, and its divisions are very much reflexed.

Of one other herbaceous species only will I speak, and from that will pass on to notice a very few of the ornamental woody species. This is the striking *Lysichiton Kamchatense* of the Yesso marshes, producing in earliest spring a white flower like a large calla, and later, enormous leaves of great beauty. In grounds of sufficient extent to afford it a suitable habitat, this must prove a decided acquisition both for its flowers and foliage, which last has a decidedly tropical appearance.

Among woody plants the magnolias have been mentioned. Both form handsome trees of medium size. The points which would, perhaps, make them desirable here are hardiness and the great fragrance of the flowers. The species *hypoleuca* is also particularly handsome in leaf, flower, and fruit. The flowers frequently measure more than a foot across, and the odor is such that I often recognized the vicinity of trees in bloom while yet as much as a furlong distant.

Cornus brachypoda, a small tree, is particularly brilliant in fruit, with its wealth of scarlet drupes which persist well into the winter. There are several beautiful Viburnums; but these, perhaps, do not surpass ours. Among the Hydrangeas, however, are found a number of noticeable species. The one which will prove the most decided acquisition is *H. petiolaris*, also *Schizophragma hydrangeoides*. This is a climber which in Yesso goes to the tops of the tallest trees, to which it clings by root-like bodies. When in bloom it converts the tree trunks into pillars of snow; and a ride in June through miles of primeval forest where almost every other tree trunk and every old, gray stump is converted into a mass of beautiful white bloom is an experience to be remembered. The Japanese know this plant as "snow vine" and the name is well given. The neutral flowers are abundant and persist all winter, so that this hydrangea is practically always beautiful.

Hydrangea paniculata, a large shrub, produces white flower clusters of enormous size; and very delicately beautiful in its native glens is *H. hortensis* or *acuminata* with its pale blue cymes; but the former is not strikingly different from the

original of our cultivated forms and the latter probably will not flourish in open gardens or lawns.

Syringa vulgaris is a small tree or shrub, common in Yesso, for the seeds and plants of which there has recently been a large demand in America and Europe. The tree is not in itself particularly beautiful; and though it produces in profusion large clusters of small white flowers, I do not believe its popularity will be long-lived. It is reported to be fragrant; but, though quite strong, I do not find its odor pleasant.

Nothing in regard to the flowers of Japan would be complete without mention of the cherry; and no land could be home to a Japanese which did not produce that much loved and storied flower. And, indeed, it is exquisitely beautiful in spring-time. The wild cherry of Yesso, single and comparatively small as the flower is, yet lingers a very pleasant picture in memory's eye. Its beautiful bark, its dainty, unfolding leaves deeply tinged with red, and its flowers of delicate pink make up a whole upon which the eye loves to linger. I cannot wonder that it has appealed strongly to the native imagination and still constitutes, as it has for ages, a favorite subject for the poet's pen and the painter's brush.

> "No man so callous but he heaves a sigh
> When o'er his head the withered cherry-flowers,
> Come fluttering down.—Who knows? the spring's soft showers
> May be but tears shed by the sorrowing sky."

The native Yesso cherry *(Prunus Pseudocerasus)* produces a fruit which is not of the slightest edible value. The tree is of medium size.

Another beautiful tree, rather sparingly found in Yesso forests, is *Styrax obassia*. This is handsome in foliage and produces clusters of exquisite white flowers in mid-summer. It would well repay cultivation. *Clerodendron trichotomum* is a beautiful shrub, especially when in fruit, with its handsome contrast of brilliant purple and red. *Eleagnus Japonicus* is another favorite of mine, with its silver foliage in summer and its wealth of scarlet berries in autumn and winter. It is perfectly hardy and easily cultivated. The Japanese eat its fruit freely. It is seedy but has a rather pleasant acid flavor. A

yellow Daphne I always sought out in earliest spring. Its leaves are evergreen, its flowers yellow and very sweet. *Diervilla versicolor*, wild there, I consider even handsomer than the Diervilla common in our gardens. I transplanted this species to my Sapporo garden and found it bore the change well and amply repaid the little care it required.

The *Actinidia polygama*, common everywhere in Yesso, deserves more extended mention. I must first call your attention to the fact, however, that the Kokuwa *(Actinidia arguta)*, of which I have already spoken, has been sometimes mistakenly called by this name. The two species are wholly distinct, and the polygama, in my opinion, for ornamental purposes is worth far more than the other. Its habit of growth is considerably less vigorous, though it is by no means a slow grower. It will be found far less obtrusive and more manageable; but the chief point in which it excels *arguta* is in the beauty of its foliage. Mature plants have the habit of producing at the ends of growing lateral shoots some four to six leaves which are tipped with a lustrous silvery white, usually spreading over more than half the leaf. This peculiarity gives it at a little distance, as it clambers over thickets, the appearance of a plant in full and abundant bloom. Then, too, the uncolored foliage is exceedingly beautiful, and the flowers, though partly hidden by the leaves, are very pretty and have all the fragrance of those of the orange. I moved a number of these climbers to my lawn but the plants were young and after three years the foliage had failed to show any white. Living plants in Amherst failed to show it for the first two years but the third year this most valuable peculiarity showed itself and I have no doubt as the plants grow older will become increasingly abundant. The fruit is similar in size and structure to that of the kokuwa, but it is far less abundantly produced and less delicious.

A word about the mistletoe and I am done with the wild flowers of Yesso. This, as I have already pointed out, is abundant. There are two species, one producing red, the other yellowish berries. Both add greatly to the winter beauty of the forests. It is an interesting question to my mind whether these plants would prove hardy here, but from what I know of

the climate of the two places I incline to believe they would. Their introduction could not fail to give satisfaction to the owners of parks or ornamental forests.

Of the cultivated flowers of Yesso, I need say but little. Much has already been said and written on this subject, and better than I could hope to do it. That the Japanese love flowers you are probably all aware. All either collect them from the fields or woods or cultivate them in gardens. Most do both, and select for both with a taste that never fails to charm. Poor indeed is the family—nay more, low down in the social scale—that cannot and does not find at least an old jug for a branch of the pussy-willow, the plum, the cherry, the magnolia, or the brilliant maple—each in its season. And this universal taste and love for flowers is manifested alike in snowy Yesso and in the more sunny south. Yet should one look for the lily, the pæony, the chrysanthemum, the lotus, and the many other flowers for which Japan is famous, each in highest perfection, one must naturally turn to the older parts of the country. These and many other flowers are cultivated in Yesso, but with perhaps a single exception the new country must yield the palm to the old. That exception is the *Iris Kœmpferi*, which in Sapporo reaches a wonderful development. Now for several years, every season has witnessed in Sapporo a display of these marvelous flowers, by a local horticulturist, which in an American city would be the wonder of the town. He numbers his varieties by hundreds, and has perhaps an acre of sunken beds separated only by the narrowest of raised paths. Most of the plants stand five or six feet in height and bear enormous flowers, a foot and more across and seemingly in every hue and in every possible mixture of all hues. Truly as I have sat and gazed upon the wondrous display I have felt ready to exclaim, "This is the queen of flowers."

With this exception I saw no noteworthy attempts at cultivation of flowers in Yesso. Many were the charming little gardens, usually at the rear of the house, but always commanded by the best rooms. But Japanese gardens would require a lecture by themselves. Believe me, they have a charm all their own. They comprehend much within a limited area. Mountains,

waterfall, river, bridges, knotted and gnarled heroes of a thousand storms, with shrubs and flowers, rock work and appropriate animal life, all within the limits of a few square yards if need be; but all presented in a manner to inspire respect, admiration, and wonder,—such are some of their most striking peculiarities.

In regard to the fruits and flowers peculiar to the more southern portions of the empire and not at all cultivated in Yesso, and therefore not yet alluded to, I shall have little to say. My knowledge of some of them has been largely acquired at second hand, and in the case of some of the fruits is almost entirely confined to the acquaintance one gets with the fruits of a more tropical clime by eating them in his northern home.

Of the orange and persimmon, even from this acquaintance, I am inclined to speak in the highest terms. The orange family is represented in Japan by some seven or eight species, including the common lemon and other species which more resemble limes, the grape fruit and citrons; but with the single exception of the orange *(Jap. mikan)*, *Citrus nobilis*, all seem to me to be inferior to the western fruits of similar varieties.

The Japanese orange, however, now beginning to be common in our markets under the names Tangerine and Mandarin, in its highest perfection is a delicious fruit. There are, however, many varieties and some of them are quite the reverse of delicious; and I regret to note that so far as my somewhat limited observation extends, the varieties put upon our markets are usually of this class. Only once have I succeeded in buying Mandarin oranges here, which were even fairly good, judged by my Japanese experience. The best Japanese orange is rather small; with a fine, thin, almost translucent skin, seedless, and very juicy and sweet. It is perhaps rather less high-flavored than the best Florida fruit; but owing to the peculiarity of peeling and separating into sections so readily, I believe most would agree with me that the eating is better calculated to give pleasure. The plant which produces this orange is small, being little more than a bush. This fruit has been cultivated in southern Japan for hundreds of years, and in the season is abundant and cheap all over the empire. When the better

varieties come into our markets they will constitute a valuable addition to their resources.

For the persimmon I have only words of the warmest praise. There are many varieties differing much from each other in size, shape and texture, and many of them when properly ripened are very delicious. My favorite variety is oblate in form and about as large on the average as the greening apple. The skin is of an orange yellow color, the flesh of about the texture of the muskmelon, though a little firmer when in perfection for my taste; and there are no seeds. Other varieties are much larger, oblong in form and the flesh more like jelly in consistency. Still others, and this is the only variety I have myself eaten here, are scarcely half the size of the first and oblong in shape. The tree as I have seen it somewhat resembles the apple-tree in size and habit of growth, though branching much less densely. Like the apple here, this fruit is to be seen everywhere in southern Japan, not often in regular orchards, but a few trees straggling about the buildings or by the roads and fences and not apparently better cared for than the apple under similar circumstances here. In the last report of our Secretary of Agriculture, I notice he expresses the hope that varieties of the Japanese persimmon will yet be cultivated everywhere in our country. In view of the fact that the Japanese have never succeeded in producing varieties to withstand the severity of the climate in the northern part of their own country, although naturally very desirous of doing so, I think the possibilities of this may well be doubted. Rein says that in Japan the tree endures night temperatures of about ten to three degrees above zero Fahrenheit. Trees imported by myself from the northern limit of the cultivation of this fruit in Japan have winter-killed to the roots every year.

Of the other fruits of Southern Japan I can say little in praise based upon personal conviction. The loquat (Jap. *biwa*), *Eriobotrya japonica*, is highly praised by many and is esteemed one of the best of fruits by the Japanese. It is of a beautiful appearance, produced in clusters of bright yellow berries about as large as cherries. The seeds are large and there is but little flesh, which has an acid taste and little aroma. The plant is a

bush with evergreen foliage and is propagated either by seeds or cuttings.

Of the grapes of Japan Dr. Rein speaks in terms of disparagement, but I found those known as Koshin grapes very delicious. They belong to the species *Vitis vinifera;* but according to German authorities are not suitable for wine-making. The peaches of Japan, already alluded to show but little variation and as compared with our own are small and insipid. They are always eaten while yet perfectly hard; and as the flavor in no peach is developed at this stage, it can hardly be wondered that the Japanese have never improved this fruit.

The cherries and plums of South Japan are yet more inferior than the peaches, and our American varieties are highly appreciated. The plums are of several species, the best which I have seen being a small red plum, *Prunus japonica*, although by far more generally cultivated is the *Ume*, *Prunus ume* which however is prized chiefly for its flowers. The fruit is thick-skinned, hard and sour and is chiefly eaten salted or dried. It is also used for making vinegar.

The ornamental value of this species of the plum is highly appreciated by the Japanese, and has been greatly developed. In different colors, in standard and dwarf forms, the flowering plum is almost everywhere met with, and at a season when nothing else will flower in the open air or in the generally little warmed Japanese houses, it adds greatly to the pleasure of the people. I have often wondered why the dwarf forms in particular are not more generally met with here.

The Japanese apple in its cultivated form is a very inferior fruit. The pear has been alluded to: it has splendid keeping qualities, with the demonstration of which so far as I was personally concerned, I seldom interfered. A peculiar method of propagating this fruit and a common way of training the trees deserve brief mention. Strong shoots of the previous season's growth and about a foot and a half in length are taken in March, the ends are whittled to a point and then charred over a slow fire. These shoots are planted in rich soil well mixed with compost and closely packed around with earth. They are

transplanted a few years later. Propagation from seeds and grafting are also practiced.

In many cases the trees are allowed to grow up in natural shapes; but where the best pears are produced the trees are planted about twelve feet apart each way and the branches trained horizontally upon a trellis about five or six feet high so that a leafy arbor shading the entire ground surface is formed. The fruit is carefully thinned, and the growing shoots pruned closely throughout the summer. The fruit produced is remarkably large, uniform and beautiful in appearance.

Lack of time forbids me to speak of the many other fruits and flowers which deserve mention, but I cannot close before attempting to give you an idea by means of an informal description of the great Chrysanthemum exhibition which is every year held at Dangozaka, one of the suburbs of Tokio.

[The MSS. of Prof. Brooks closes here. It is to be regretted that there was no full report of his "informal description" of the Chrysanthemum Exhibition with which he concluded his interesting Essay.

E. W. L.]

21st January, A. D., 1892.

ESSAY

BY

JAMES DRAPER, OF WORCESTER.

Theme: — The Preservation of Road-side Trees, and the Improvement of Public Grounds.

"Woodman, spare that tree;
Touch not a single bough;
In youth it sheltered me,
And I'll protect it now.
'Twas my forefather's hand
That placed it near his cot;
There, Woodman, let it stand,
Thy axe shall harm it not."

THE incident that gave thought to the poem of which the above is the opening stanza, is familiar to many; yet in a word, I will allude to it as emphasizing the importance of considering and acting upon the problem suggested, as the topic of our discussion — "The Preservation of Road-side Trees, &c."

In the year 1837, George P. Morris of New York, while driving with a friend along the lane that led to his early home in that portion of New York City known as Bloomingdale, discovered a man with axe in hand about to fell to the ground an aged and noble oak that had been planted by his grandfather, before he was born, and under whose shade, for many years, with parents and sisters, he had spent many happy hours.

Touched to the heart at the thought of the demolition of this historic tree, he first tried to persuade the owner to desist from his purpose, without avail, and then he negotiated with him on the payment of a sum equal in value to the wood and timber the tree would make, and going into the Old Homestead, he

took paper, drew up a bond for him to sign, stipulating that as long as the property remained in his possession, or that of his family, that "Old Oak" should never be disturbed.

That this feeling of veneration for these noble road-side trees has not died out, is evinced by the interest taken by those lovers of trees, who have been instrumental in securing a legislative enactment for the preservation of road-side trees in this State.

The law as it now stands is as follows: —

"Chapter 196 of the Acts of 1890, as amended by chapter 49 of the Acts of 1891.

"SECTION 1. The mayor and aldermen of the cities and the selectmen of the towns within the Commonwealth are hereby authorized to designate and preserve, as hereinafter provided in this act, trees within the limits of the highways for the purposes of ornament and shade; and to so designate not less than one such tree in every thirty-three feet where such trees are growing and are of a diameter of one inch or more.

"SECT. 2. Said mayor and aldermen and selectmen shall, between the first day of September and the thirty-first day of December in each year, designate such trees as are selected by them for the purposes set forth in this act by driving into the same, at a point not less than four nor more than six feet from the ground and on the side towards the centre of the highway, a nail or spike with a head with the letter M plainly impressed upon it; said nails and spikes to be procured and furnished by the secretary of the state board of agriculture to said mayor and aldermen and selectmen as required by them for the purposes of this act. Said mayor and aldermen and selectmen, between the first day of September and the thirty-first day of December of each succeeding year, shall renew such of said nails and spikes as shall have been destroyed or defaced; and shall also designate, in the same manner as hereinbefore stated, such other trees as in their judgment should be so designated to carry out the requirements of this act.

"SECT. 3. Whoever wantonly injures, defaces or destroys any tree thus designated, or any of said nails or spikes affixed to such trees, shall forfeit not less than five nor more than one hundred dollars, to be recovered by complaint, one-half to the complainant and one-half to the use of the town wherein the offence was committed.

"SECT. 4. This act shall not apply to ornamental or shade trees

whose preservation is now provided for by chapter fifty-four of the Public Statutes and the acts amendatory thereof."

The requisite nails or spikes have been procured by the secretary of the Board of Agriculture, and he is now prepared to furnish them, on request of selectmen of towns or mayor and aldermen of cities, for the purposes set forth in the act above mentioned.

I am not aware that action has been taken in a single instance by the town or city officials in this county, to carry out the provisions of this act.

It seems to me that it is clearly within the province of this Society, not a local but a County organization, to take the initiative steps in this work, by defining some uniform method of procedure and to designate what varieties of trees it is most desirable to have preserved, and where, within these road-side limits the same will be best protected from injury.

The new law clearly defines the proper authorities entrusted with this work. The Board of Selectmen in the several towns, and in the case of our own city, the Parks-Commission would seem to me to be the proper authorities.

What Trees to Preserve.

The White Oak, American White Beech, Rock or Sugar Maples, American White Elm (when space is ample), and American White Ash seem to me to be the most desirable.

The objection to the Red Oak and Basswood or Linden is their susceptibility to the attack of the borer; the Poplars and White or Red Maples, their liability to injury or wreckage by ice storms. The Red or Slippery Elm if discovered by travelling man or boy will not escape the robbing of its bark, and the Chestnut and Walnut become the victims of severe clubbing, and injury to their trunks, by pounding without mercy to induce a few stray nuts to leave their snug quarters before being ordered out by the autumnal frosts.

Location of Trees.

But two positions can safely be agreed upon in the Road-side Preservation of Trees. Either they must be in close prox-

imity to the boundary wall or fence, or far enough distant therefrom to allow a foot-walk six or more feet, between the trees selected and the boundary line.

While this should apply to the trees of smaller dimensions which are to be designated for preservation, in the instance of an occasional tree which may be found between these lines, that have reached nearly to their maximum height and breadth, the owners of adjacent land would do honor to themselves and confer blessings upon posterity by giving to the highway, sufficient land to allow a foot-walk on the one side, and an ample road-bed in the line of travel on the other, so that these noble "Sons of the Forest" may be fully preserved.

Whenever the tree to be preserved can be found standing close to the boundary lines, the chances of its being left undisturbed are far greater than those six feet or more distant therefrom, when they so often become hitching posts for careless and thoughtless drivers, or the victims of barbarous treatment at the hands of Road Repairers with their death-dealing road machines or ploughs or scrapers.

While we have alluded thus far only to such road-side trees as have sprung up as by chance, and have now reached sufficient size to be designated for permanent preservation, it may not be out of place to note the plans abopted by the Worcester Parks-Commission in the planting of shade trees on the city thoroughfares or highways in the suburbs.

In the city proper no trees are planted until the grades of the streets have been permanently established by the City Engineer, and the curb stones placed in their permanent position.

They are planted 8 inches inside the curb, and distant from each other from 35 to 40 feet.

Where trees have been planted under these directions, outside the curbstone limit by private individuals, they recommend a distance of 40 to 50 feet, and within one foot of the wall or fence, or either six or seven feet distant therefrom, being governed somewhat by the width of the highway, where the trees are planted.

While this work of planting shade trees has been carried on very successfully by the Commission for many years, and over

ten thousand trees are now growing in a thriving condition, their greatest care and anxiety now, is their preservation from injury by reckless drivers of all kinds of vehicles and their utilization as hitching-posts for horses, by those of whom better things should be expected.

To the credit of the irrepressible small boy who has to bear such a liberal share of denunciation in these matters, be it said, that the injury from sharp-edged tools in their hands is very meagre in comparison with the destruction wrought by the teeth of hungry horses. Tree-guards of the strongest construction which are from seven to eight feet in height are found of little avail where a hungry horse is bent on a meal of the tender growth of a thrifty Sugar or Norway Maple.

While this destruction of the more recently planted trees is trying in the extreme, the reckless mutilation of road-side trees outside the city limits by the employees of the several Telegraph and Telephone Companies over-shadow every other line of destruction.

Some of the finest Oaks, Elms and Maples, along the routes occupied by these corporations' wires have been mutilated and disfigured beyond measure, while some specimens have been so nearly ruined that they can never be restored to any degree of symmetry. And what is the remedy? These companies have acquired their franchise without cost, by the simple application to City Council or Board of Selectmen, for leave to locate their poles along certain thoroughfares. This privilege does not carry with it the right to destroy a single tree that may come in their way, yet the employees invariably get in their deathly work before they are discovered, and their would-be prosecutors are unable to bring them to justice.

There is room enough in the world both for the trees and the wires but as trees do not root in the air, they must take the lower strata in the premises, while the telegraph companies by using 50 and 60 ft. poles instead of those only 30 to 35 ft. in height can carry their wires well above the tops of the average shade or road-side trees without injury. Any branches to the tree that will interfere with the wire of that height can safely be removed without any injury to the tree or disfigurement to

their symmetrical proportions. United and decisive action on the part of city and town officials, demanding the reconstruction of their lines on higher poles, alone will prove the remedy.

While much has been done of late in this embellishment of our streets and road-sides with shade trees, we have but few drives that have become prominent for their shade and attractiveness, that are the results of the labors of some of our public-spirited and tree loving citizens, 30 or 40 years ago.

I can recall nothing more beautiful and effective in the way of roadside ornamentation, than the double rows of magnificent Norway Maples that over-arch Lovell St., southerly from May St., which were planted by our esteemed fellow-citizen O. B. Hadwen.

A short section of May street west of June street speaks words of living praise for the labor of the Hartshorn family in the planting of Sugar Maples, while a long stretch on the Grafton road planted with the American White Ash, perpetuates the memory of the late Darius Rice.

We take much pride in many small groups of trees and some magnificent single specimens that adorn the homes and road-sides of our rural citizens, but we cannot point to a single mile of continuous shade upon any suburban road, from trees of twenty-five or more years of age. It is to encourage this road-side embellishment by the preservation and planting of suitable shade trees upon the treeless roads around this city, that has prompted the consideration of this subject to-day.

While I have been greatly impressed with the grandeur and sublimity of the natural scenery of the country, that it has been my privilege to visit and gaze upon, I still hold in high veneration those marked features of the landscape, where the work of nature has been supplemented by the hand of man, in the laying out of broad avenues, and the planting of road-side trees.

What is it that most impresses the visitor to our rural town of Lancaster? Nothing more nor less than its broad central avenues overarched with stately elms, planted early in the present century.

The town of Shrewsbury will ever revere the names of Harlow and Hapgood, who, when in the prime of life, erected their own monument by the planting of those rows of Sugar Maples, that now attract the attention of every lover of nature. "Yea, verily they cease from their labors but their works do follow them."

While our State has many towns whose shade trees have made them famous and attractive, the work of street embellishment in Washington City is not only of especial interest but of great magnitude. During a period of ten years, over 20,000 shade trees were planted on the streets and avenues, and as many more in the parks and reservations. What impresses one most in their method of planting is the large variety of trees that have been utilized. The climate in that locality allows the utilization of many trees that are not indigenous to this New England climate. Certain avenues are planted exclusively with one variety of trees and the effect is most pleasing. The perfectly formed and evenly rounded head of the Sugar or Norway Maples on certain avenues, while the more spreading Silver Maple type characterizes another. The American Linden furnished another type of symmetrical and finely formed trees. The Tulip or Whitewood is clean and shapely, while the Gingko or Maiden Hair, furnishes a peculiarly striking foliage that attracts much attention. The Elms are used in some cases where space will allow. The Carolina Poplar and Negundo Maples were planted largely at first, but proved very unsatisfactory after a few years; the Negundo becoming badly infested with insects, and the Poplar becoming sadly disfigured by breakage.

Our neighboring city of Boston has just completed a broad avenue several miles in length from the city proper to "Chestnut Hill Reservoir," in Brookline, that is unequalled by any drive in this section of the country. Its distinctive features are its generous width, 200 feet most of the distance, the location of the double tracks of the Electric railroad system in the centre of the avenue, and on either side of these tracks rows of shade trees are planted, while the surface of the ground is well turfed with grass. An equestrian drive comes next

to the railroad location, while a broad thoroughly constructed road-bed is located on each side of the avenue for carriages. Broad sidewalks are located between the carriage drives and the boundary line, and here again rows of trees are planted, the whole forming a grand colonnade with four rows of trees the entire length.

This is Boston's great pleasure drive of which she feels justly proud.

Can Worcester hope to ever possess even in a small measure, such a grand feature in its system of Boulevards or pleasure drives?

Cannot our Hamilton Avenue to Lake Park when constructed, be made to comprise these distinctive features in its width and utilization and ornamentation?

In my journey through California a few years ago, I was impressed with the interest taken there in this roadside tree planting. We found at San José a broad avenue called the "Alameda," leading to Santa Clara three miles distant, with a double row of Poplars and Willows. These were planted by Jesuit missionaries over one hundred years ago, and although we cannot approve the selection of trees for durability they are entitled to the honor of being the pioneers in tree planting on the Pacific Coast. At Riverside in Southern California may be found one avenue, the Magnolia, which is nine miles in length, and planted the entire distance with huge palm-trees on each side, and a row of pepper trees in the centre.

In another town, Pomona by name, the leading attraction is a broad avenue planted with two rows of cypress trees, and two of the Eucalyptus, which makes a most charming effect.

These are but a few of many illustrations; time will not allow the mentioning of more.

In considering the question of the *Improvement* of *Public Grounds*, it is not my purpose to touch upon the work of the landscape gardener or the laying out and embellishment of Public Parks, but to advocate a certain line of improvement that would not come under their province. I refer to the land, coming within the boundary limits of our highway as well as that of school-house grounds. It was my privilege a few years

ago, as the Executive Officer of the Massachusetts State Grange, to recommend the observance, by the Subordinate Granges of the State, of a fixed day in the early part of the month of May as Arbor Day; and in addition to the planting of fruit and ornamental trees around the home, and trees for shade and shelter along the roadsides, I urged the importance of cleaning the grounds around the buildings and along the roadsides of all useless underbrush, stones, stumps or any other unsightly objects, and then grade the same and seed it down to grass. It is gratifying to note how much interest was manifested in this work, in many towns, and what great improvements were made through this united, as well as individual, effort.

I am aware that many will assert that this kind of work does not pay or that the activities of farming life will not allow time for any such improvements. No one would urge any neglect of their duties that at many seasons of the year become imperative, but there are many broken days or partially rainy days in the course of the year, and even between the busy seasons, that can be devoted to this work if one is so disposed.

Have this road-side improvement as one object in view that shall have a few days' attention every year, and in ten years from now the suburban roads of this city and county would show a most wonderful and pleasing transformation.

"Will this work be appreciated?" may be asked. There certainly is no negative answer to this question. The number of owners of teams for pleasure-driving in this city is increasing largely every year and I question whether another city of equal population to the city of Worcester, where so many teams are kept for pleasure-driving, can be found. This driving is not confined to our busy thoroughfares, to Park Avenue, or the roads that have been sacrificed to the traffic of the horse or electric railway systems. These are being largely avoided and resort is taken to the rural drives, of which no city can boast of more charming ones, or a grander or more diversified landscape.

This is no new claim or assertion, for we find recorded in the History of Worcester by Lincoln, that prior to the year 1836, Professor Hitchcock, a writer of high authority, said, "Apart from human culture, this geographical centre of Massachusetts

would present no very striking attractions to the lover of natural scenery. But this valley possesses precisely those features which art is capable of rendering extremely fascinating, and there is scarcely to be met with, in this or any other county, a more charming landscape than Worcester presents from almost any of the elevated hills that surround it. The high state of agriculture in every part of the valley, and the fine taste and neatness exhibited in all the buildings of this flourishing town and the intermingling of so many fine fruit and shade trees, spreads over the prospect a beauty of high order on which the eye delights to linger."

This was the result of an interest taken in this matter by a few individuals for several generations previous.

It appears from the early records that in the year 1783 an ordinance was passed by the town as follows: —

"Whereas, a number of persons have manifested a disposition to set out trees for shade, near the meeting house and elsewhere about the town, and the town being very desirous of encouraging such a measure, which will be beneficial, as well as ornamental, *voted*—that any person being an inhabitant of this town who shall injure or destroy such trees so set out, shall pay a fine not exceeding 20 shillings for every offence, to the use of the Poor."

This attention given to street ornamentation, inaugurated over a century ago, continued in later years by men who were the founders and promoters of this Horticultural Society, the Lincoln family for three generations most prominent of all, has given us for enjoyment the refreshing shade of our Common and the streets in the immediate vicinity.

The authorities in charge of the highways in this city are doing more each year to improve the roadbeds in every direction. It now remains for the owners of land bordering on these highways, to supplement this work by improvement of the roadside, the planting and preservation of our shade-trees and thus add to the attractiveness, enjoyment and general prosperity of an appreciative community.

Some of our railroad corporations are setting us a good example in the way they are utilizing the vacant land around the stations by planting trees, vines and shrubs in a most attractive

manner, and the travelling public are certainly enjoying the grand improvement.

In the matter of—

School-house Grounds

a few suggestions may be offered as it comes within the province of the question under consideration.

The suggestions made for Arbor Day observance, already alluded to, while intended more especially for the towns in the State where Granges were organized, found no heartier support than in our own city. It was very gratifying to me to be invited to address a meeting of the school teachers upon this subject, giving hints and suggestions that might aid them in their work. It was still more pleasing to note the interest taken by so many of the teachers and scholars, in the initiative work of planting the shade-trees, vines and shrubs within so many of the school-yard enclosures in this city.

The predictions of those who doubted the expediency of such an undertaking, and predicted the certain demolition of every vestage of plant-life the first season have not proved true, but on the other hand, those trees and shrubs that the pupils had planted with their own hands, or had secured by their own efforts either by purchase, solicitation or contribution, were guarded with a care and interest that has been most commendable. The class-tree that adorns the grounds of nearly every one of our college and other institutions of learning, some that have stood for half a century or more, are held in sacred veneration by the graduates of those institutions ever afterwards.

Who shall say that the boys and girls of the primary and intermediate schools who have aided in the planting of their class-trees will not ever after, cherish pleasant recollections of this chapter of their school-day life, and also that these early impressions will lead to higher appreciation of the value of trees for shade or shelter and closer acquaintance with the numberless varieties of plants, shrubs, vines, or flowers, that are adding so much to the pleasure and comfort of mankind, whether planted in garden or park, or growing in their natural wildness and beauty on roadside, or in woodland or forest.

We are cognizant of the fact that our school-yards are limited in space and but little can be spared for this work, but is it asking too much that one tenth of the area be appropriated to this work? And all this space can be taken in the borders, or in the corners so as not to interfere with the playground, for no one would interfere with all that is necessary to develop the physical nature and the enjoyment of our outdoor games and pastimes. The open space allowed for this exercise and pleasure can be made much more enjoyable, if protected by suitable shade which can be secured in a large measure by planting trees around and near the border-line of the enclosure; and as these trees will take room above the heads of the children, their available area for sport is not diminished in the least. If a strip varying in width from five to ten feet along the borders, or in close proximity to the building, can be taken for the dwarf-growing trees and flowering shrubs, a most pleasing effect can be produced and the large variety to select from that are indigenous to this climate will afford a choice assortment of color in flower and leaf and continual bloom during the season.

We have reason to take pride in our finely-constructed school-buildings, their pleasing architectural design and effect, their location and adaptability for instructive purposes.

Let us hope that the work so happily inaugurated in embellishing the grounds around them may continue and that the example so prominently placed before us in our Normal-school grounds, and that the inspiration of their Arbor Day observance may prove lasting, so that teachers who graduate therefrom, as well as those now in the service, may be earnestly devoted to their noble work till every school-yard shall be made to possess, in small measure at least, these attractive surroundings, that conduce to the greater refinement and higher moral sentiment of our children.

4th February, A. D. 1892.

ESSAY

BY

H. B. WATTS, OF LEICESTER.

Theme:—Summer Flowering Bulbs. How, When, and What to plant.

THE extent of our subject and the shortness of time to be given it, is sufficient reason for at once entering upon its discussion without further preliminary remarks.

The Gladiolus: This genus of so-called "bulbous" plants, for botanically its "bulb" is a corm, contains ninety species mostly from the Cape of Good Hope, some being found in Central Europe, the Mediterranean region and Western Asia.

The original species are seldom met with in cultivation, although there are several which would repay attention and be very interesting. Among these might be mentioned, *Gladiolus dracocephalus; G. blandus; G. cardinalis; G. Saundersii; and G. psittacinus.*

But these are insignificant when compared with the beautiful and stately flowers which the art of the hybridizer has produced from *Gladiolus gandavensis*, a hybrid of *G. psittacinus* and *G. cardinalis*, whose varieties at present number over three thousand. The colors, durability, ease of culture, and usefulness of this type place it at the head of our list of summer flowering bulbs. Were it fragrant, the rose would be no longer queen. It has been crossed with *G. purpureo-auratus*, a hardy variety with a weak and few-flowered spike, but having the individual flowers of great beauty; hence has arisen many varieties which can be at once recognized by the distinct and novel shape and coloring of the flowers.

A new class or type of Gladiolus is offered to the public for the first time this season and it is claimed to be a decided advance on the older kinds. This new comer is a cross between *G. Saundersii* and the hybrids of *G. gandavensis*. It is called *Gladiolus Hybridus Nanceianus*. The special claims for it are the large size of flower, length of spike, and fine coloring.

The cultivation of the gladiolus is very easy if the soil is adapted to their growth. A light loam with a porous subsoil gives the best results. The land is plowed about six inches deep, and furrows made three feet apart. The fertilizer is sprinkled in the furrow and the bulbs planted six inches apart and about four inches deep, two rows in a furrow. Never plant the gladiolus two years in succession on the same land. They may be planted any time after the frost is out of the ground until the 10th of June. They can be placed closer than six inches if one has but a limited amount of space; but they are easier kept free of weeds if they are at that distance. The soil should be well worked throughout the season and drawn up slightly to the plants. Stake them if you wish; if you have several hundred thousand, *possibly* you will not wish to. If very fine spikes are wanted, liquid manure applied when they have formed their seventh leaf will greatly improve them. When frosty nights begin the bulbs should be lifted, and when dry, the old bulb, roots, and bulblets taken off and the bulbs and bulblets stored in a cellar during the winter.

The question has often been asked if the gladiolus "runs out," or reverts to the old varieties. They never do. Some grower taking size as his criterion of quality of a bulb, discards or loses his "poor" bulbs and consequently his best varieties. He therefore says they have "run out."

In some of the best varieties the only way of increase or even keeping is by the small bulblets. These will bloom the second or third year, if the hard covering is peeled off.

The most interesting way of increasing a stock of bulbs as well as the varieties is by growing seedlings. Seed may be saved from several good varieties which have been isolated, or hybridized by hand; this should be sown as early in the year as possible. One is sure to get some fine flowers, if they are

well taken care of, the second year; but the best generally flower last.

The tuberous-rooted Begonia, as now known, is the result of the crossing and recrossing of several tuberous-rooted species found native in the South American Andes; these species are, *Begonia boliviensis; B. octopetala; B. rosæflora* and *B. Veitchii.*

They are well adapted for bedding out and also one of the best pot plants for summer we possess, the remarkable size of the flowers and their rich colors make them very attractive.

Heretofore it has always been recommended that partial shade be given them when used as a bedding plant, but experience has shown that they are capable of withstanding our brightest sunshine, and in fact do even better there than in the shade.

The tubers should be started in April and planted out about the 1st of June. Those that are intended for pot culture should have plenty of root room and be placed in a lightly shaded greenhouse.

They can be increased by cuttings taken during late summer or early autumn. These will make tubers large enough to make good plants the next summer. But by far the best mode of propagation is by seed. By sowing seed in January or February, or even later, the plants will bloom the same year. The seed, being very fine, must be sown carefully. The soil is made free from seeds of weeds by exposure to heat, sifted fine and packed smooth and solid in a box or seed-pan, and thoroughly watered. On this the seed is sown and lightly covered with sifted sphagnum. Cover with glass and keep in a temperature of 65 degrees. The plants should show in ten days. As soon as large enough transplant and keep growing by frequent shifting into larger pots.

The Tigridia is not a new plant, being introduced in 1796 from Mexico, still it is not as well known as it should be. The culture of the Tigridia is the same as that of the gladiolus, with the exception that it needs plenty of water. One bulb well planted and cared for, will flower all summer. The flowers do not last long, but their curious shell or conch shape

and striking colors make it a very interesting and useful plant.

Galtonia candicans, better known as *Hyacinthus candicans*, is a very showy plant, well adapted for growing in masses. It sends up a scape bearing 10 to 20 white pendulous bell-shaped flowers, which are quite durable.

The Monbrettia–Tritonia is hardy and of easy cultivation and very desirable. It flowers from July until frost. There are a number of species and hybrids.

The Amaryllis *(Hippeastrum)* is a genus of nearly 50 species, mostly from the Cape of Good Hope. But *Hippeastrum vittata* and its hybrids is the one most generally grown. The amaryllis will flower in winter as well as summer if the season of rest is shortened. The dry bulbs should be potted in a light soil, well watered and put into a house kept at 50 degrees. They must be abundantly supplied with water during their season of growth. After flowering let the bulbs gradually dry. Seed germinates very readily if planted as soon as gathered, and the seedlings will bloom when about two years old.

The Gloxinia rightly belongs to the genus *Sinningia*, and most of them are derived from *S. speciosa*. Still they are commonly known as Gloxinias, and they are among the finest of our summer flowering plants. They are adapted for house and frame culture only.

Their culture is as follows: As soon as the bulbs begin to show new growth in the Spring (March—May) pot them in a porous and very rich soil. They do best when grown in a warm, moist atmosphere. When watering the leaves should never be wet for they are liable to damp off; and they should not be placed in the bright sunlight.

The Gloxinia has been so improved by hybridization that the older varieties, *pendula* and *horizontalis*, have given place to the new *erecta* type, with upright flowers which display their rich coloring to the best advantage. Some of the flowers in my collection last year measured 4½ inches in diameter, and these were but seedlings of the previous year. It is now useless to attempt to propagate the gloxinia by leaf cuttings, as was formerly the practice, for seedlings can be raised so easily and quickly, and

produce such fine varieties and large flowers. The seed is very fine and should receive the same treatment as recommended for Begonias.

The Canna: A new class of these plants was introduced from France in 1884, which are of a dwarf bushy habit, making them desirable both for growing in pots and bedding out. Grown in pots they bloom very freely, the flowers being of large size, much resembling a gladiolus, and are very showy.

They are increased by division of the tubers or they can be readily grown from seed; if seed is sown it is best to take off the hard outer covering.

The older varieties are well known and need no mention here. The tubers must be taken up in the fall and kept dry and warm during the winter. They are then divided and planted the latter part of May, in a deep rich soil, the richer the better. If they are started before setting out it will be a great advantage, as they cannot be exposed to danger from frost.

Oxalis: Summer flowering Oxalis are useful for edging borders of flower-beds and walks. *Oxalis Deppei (tetraphylla)* with white flowers, and *O. lasiandra*, pink, are the two best varieties for the above purposes.

Ipomœa pandurata has not given much satisfaction as yet; but it may be that it requires more than a year to get established.

The Calochortus is a handsome bulbous plant from California. They have flowers somewhat resembling the tulip in shape, and are white, purple and spotted in color. They should be planted about the last of May, in a sandy loam. Plant them 3 inches deep. *Calochortus pulchellus* is a bright yellow species known in catalogues as *Cyclobothra*.

Milla Biflora, white: *Bessera elegans*, flowers purple, scarlet and white. The bulbs are half-hardy and can be wintered out doors with protection; but it is easy to take them up and keep them in a dry cellar.

The Tuberose *(Polyanthus tuberosa)* is a native of the East Indies. The double flowering form was obtained from seed in Holland. The recently introduced variety known as the "Pearl" is a sport that originated on the grounds of Mr. John Henderson of Flushing, L. I. This variety is far superior to

the other varieties in the large number of flowers which it bears, and on account of its dwarf habit, although for out-door culture the tall variety is good. For out-door culture, the tubers should be started in March or April and set out the 1st of June. They are propagated from offsets of the large tubers.

The Dahlia is a Mexican plant and was brought to Europe in 1789. There are but few species, the one that has produced our old garden varieties being *Dahlia variabilis*. It is a remarkable fact that this one species, without any hybridization, has given rise to so many different colors. One of the new introductions is *Dahlia Juarezii* or Cactus Dahlia, which is quite worthy of cultivation, when one has space enough. *Dahlia coccinea* is the parent of our many single varieties.

Dahlias are very easily propagated by dividing the tubers, or by starting the plants into growth early in the spring and taking cuttings of the young shoots; as soon as rooted they should be potted and kept growing until the last of May, when they are set out. The plan that gives the best results, however, is to start the tubers into growth about the middle of April, and, as soon as they have grown 2 to 3 inches, cut the shoot off with a piece of the tuber and pot it in a 3½ inch pot, or larger if necessary. These will make good stocky plants to set out by the 1st of June, that will grow one stem from the ground, with a large branching top that will produce an abundance of flowers. If the tubers are planted, all but 2 or 3 of the shoots should be broken off. Before planting drive a strong stake into the ground where each plant is to be. Choose a rich moist piece of land and set the plants 3 feet apart in rows 4 feet apart; the plants will cover all the land. Liquid manure applied when the plants are coming into bloom, will improve the quality of the flowers. They seed freely and new varieties are easily raised, if some care is used in selecting the seed-bearing plants. After the frost has killed the plants, lift the tubers, shake off the soil, and dry them in the sun; store them in a cool dry cellar during winter. One species, *Dahlia excelsa*, grows 30 ft. high.

The Lilium; Of 45 species of the Lilium not one is unworthy of cultivation. The Lily needs a good sandy loam with a

porous subsoil. Standing water is a decided obstacle to its culvation.

For a lily bed, the ground should be spaded 15 inches deep and well enriched. Plant the largest of the bulbs 12 inches deep, the smaller ones 8 inches. The month of October is the best time for planting most species, and three years is as long as a bed should remain in the same place. They do well if somewhat shaded, but some kinds require the sunlight.

Following are some of the varieties which can be recommended as being perfectly hardy, and well worth a place in every garden: *Lilium japonicum Brownii*, *L. candidum*, *L. auratum*, *L. pomponium* and its varieties, *L. speciosum* and varieties, *L. Martagon* and varieties, *L. excelsum*, *L. elegans* and varieties, *L. monadelphum*, and *L. longiflorum* and its varieties.

Some bulbs will remain a year in the ground before starting. This genus of plants has been sadly neglected of late years. Their stately beauty, their utility as a decorative plant either cut or in the garden should make them more generally grown.

In the above remarks, many worthy plants have doubtless been overlooked, others merely mentioned. An afternoon could be devoted to the gladiolus itself, another to the lily or the dahlia. But if a renewed interest is awakened in the cultivation of these plants, or the way of beginning aright shown to some, who have been doubtful of success, if they should try this branch of Horticulture; then will the object of this paper be accomplished.

11th February, A. D. 1892.

ESSAY

BY

BURTON W. POTTER, Esq., of Worcester.

Theme: — Our Dwellings and their Environs.

Our dwellings and their environs is a subject in which we are all interested. Every dwelling should be a home, and the mention of that good old Saxon word touches a chord in the memory of every one who has realized in the course of his career that "there is no place like home." The influences of the home are all-powerful in the formation of characters, and likewise determine in large measure the character of the government of the country in which they are situated. The multiplication of happy and beautiful homes might well be the chief aim of every government, and time and thought spent in the consideration of home improvement is not only permissable, but becomes the duty of every person who desires to add his mite in the advancing civilization of his country and the world.

During the past fifteen or twenty years there has been great improvement in our domestic architecture, but there is still opportunity for both internal and external improvement of our homes. Our Colonial architecture was superior to the architecture of the first seventy years of the present century. In the Colonial period, many of the houses were well built and in excellent taste, as is evidenced by some of them which still remain as witnesses to the ability and honesty of the architects and builders of those days. We need only call attention to the substantial and picturesque Salisbury mansion in this city to verify this statement. In the early part of this century when our high-pressure civilization set in, the architects disappeared and the reign of the car-

penters began. Thenceforward he was considered the best builder, who could draw the plan for a house on a piece of brown paper in an evening and erect it within a few weeks thereafter. The houses of the country assumed the shape of dry-goods boxes with narrow halls and stairways, small rooms without closets, and devoid of external beauty and internal convenience.

In the 'forties and 'fifties, Andrew J. Downing and his coadjutors led a movement of reform in the construction of dwelling-houses, and their labors greatly improved the taste of educated people in domestic architecture, but it was not till within the past few years that the desire for homes of greater utility and beauty became general among the masses. Now from one end of the country to the other men and women of means are vying with each other in the erection of beautiful and convenient houses. The style of this architecture is so cosmopolitan that the features of every known style, ancient and modern, may be seen within the boundaries of every State in the Union. It is to be hoped that in this evolution of architecture the fittest will survive, and that finally every new house will have as much beauty and convenience as possible within the means of its owner.

It is well that people of good taste differ in taste, as thereby variety is secured without the loss of the best. And this remark is especially true in regard to architecture. Every house should be adapted to the wants of its inmates, to the climate of its locality, and to its situation and surroundings. Consequently it is impossible to give a general rule applicable to all houses as to style and interior arrangement, but there are certain things which are characteristic of all good houses as there are certain things characteristic of all good persons and materials. I will therefore name some of the things which seem to me to be the indispensable qualities of every good house.

To begin with, every house should have a good site, not necessarily a site commanding fine views, or in an aristocratic neighborhood, but a site elevated enough to expose the living-rooms to plenty of fresh air and sunlight, and to secure a dry and wholesome cellar. Dampness in the cellar means dampness

throughout the house, and dampness in the house means sickness and disease. Colds, coughs, neuralgia, rheumatism and consumption are quite apt to find lodgment in a damp and gloomy house, and these pests to human flesh and bones are disposed to flee away before floods of sunlight in a dry and healthy atmosphere.

Also, as far as possible, the site chosen should make the outlook from the house cheerful and pleasant. The tenants of every house spend a considerable portion of their time in it, and a bright and pleasant prospect therefore helps to make them cheerful and contented.

Every house should also have a good cellar. Some people think that cellars are of no consequence because they are mostly out of sight beneath the ground, and others object to them because they are liable to be damp and cold. One of the essayists before this Society last winter thought that all cellars should be above the ground. To my mind there are several good reasons why a cellar should not be above the ground. It necessitates a flight of steps to the main floor of the house, which in itself is very objectionable both as to use and looks, and besides it is more likely to be colder in winter and warmer in summer than an underground cellar, and withal, a poor place to keep vegetables and other produce. In my judgment the cellar has been rightly located beneath the ground, but more attention should be given to its construction and drainage. It should be thoroughly drained and sufficiently above ground to insure light and ventilation without giving the house a stilted appearance. A house should be in harmony with its environment and not only appear but actually form a part of the physical world where situated, and therefore it should seem to be planted in and growing pretty near to Mother Earth. A good portion of the expense of a good house should be put under ground. The foundations should be deep, and stronger than the superstructure, and the cellar should extend under the whole house. A warm and dry cellar in winter contributes largely to the warmth and comfort of the rooms above. A casual visitor to a house seldom asks to see the cellar, but when a house is in the market

a wise customer inspects the cellar more carefully than any other part of the structure.

Every good house in this region is built either of wood, brick or stone. Limited means compel many people to build their houses of material which is not their first choice. Probably the ideal house for the majority of persons is one made of stone, vine-clad and solid as the eternal hills. Stone is indeed a fit and beautiful material for a dwelling or any other building. Time mellows and improves its appearance. It courts the embrace of climbing vines and lovingly supports them as the decorations of nature. It harmonizes with the verdure of the woods and fields, and with the clouds and all the colors of the sky. It will defy the tooth of time, and when put into the walls of a house it will shelter its inmates for centuries. If laid in good cement or mortar, it will call for little work or money to keep it in order and no expenditure for paint. Luckily New England has an unlimited supply of the best quarry and field stones for building purposes, and as wood grows more scarce and expensive stone will undoubtedly be used more commonly in the construction of houses.

There is some prejudice in the public mind against stone houses on the ground that they are apt to be damp; but when properly constructed, with suitable air spaces, there is no good reason why a stone house should not be dry and healthy.

There is no popular opposition to brick houses on the ground of dampness, but there is some objection on the ground of looks. The objection is owing more to the way brick have heretofore been used in this country than to bricks themselves. They have generally been used in the construction of factories, dormitories, street blocks and other buildings with plain, flat walls, pierced by a few unartistic doors and windows. Such buildings, it must be admitted, do not make pleasing pictures, and are unsatisfactory to the tasteful eye; but when bricks are artistically employed in the construction of buildings of proper architectural proportions with stone trimmings or terra-cotta ornamentations, like the new public library and some other structures in this city that might be named, they make beautiful buildings and are pleasant to look on. No one who has seen

the stately and picturesque homes of England, many of which are made of brick, will claim that a brick house is out of place amid the greenery of nature, or that brick cannot be used with charming effect in domestic architecture.

In strength and durability, brick is equal if not superior to stone, and no one can make a mistake in building in an artistic manner a dwelling-house of brick. And if anyone cannot afford to build the whole of his house of stone or brick, he cannot make a mistake in putting up the first story of either of these materials and then topping out with wood; which for house-building purposes is almost equal to either stone or brick.

A well-built wooden house, tightly boarded, with a layer of felting or sheathing-paper under the clapboards, makes a dwelling dry and warm, and for health and comfort all the year round, equal to any stone or brick house ever constructed.

Every house should be pleasantly windowed. All the pleasant prospects around should be made to look in upon its inmates, and every attractive scene in the neighborhood should be made to appear at its best from one or more of the windows. The most beautiful views should not be cut off or obstructed by windowless wall-spaces, or by outbuildings; and when there are permanent buildings or other objects already in the way, the windows should be arranged to make the most of the available scenery still left. Light and sunshine should be familiar with every nook and cranny in the house, and the buildings should be so situated as to catch the first and last rays of the rising and setting sun, as in this way the dawn may be hastened and the twilight prolonged, and the health and enjoyment of its inmates promoted.

Low and wide windows conduce to the pleasantness of a house and give it an air of hospitality and life. There are some houses which always appear silent and devoid of life. Although they are well occupied, yet from all outward appearances they are dead houses from which life has fled, or, if life is there, it is shut up within. Sometimes the cause of this lifelessness is owing to the disposition and habits of the occupants. They keep all the doors and windows shut, draw the curtains and close the blinds, hush every noise and curb the expression of

every jubilant emotion. The most cheerful house would be dumb with such inmates. But sometimes this deadness arises from the gloomy construction of the house, in which case the most cheerful family would find it difficult to give it an appearance of light and happiness. Its whole outward expression is cold, dull and uninviting. Birds and children will not willingly hover around it or be merry in its presence. Streams of life and sounds of laughter will not issue from its sombre windows. Its soulless and half-darkened rooms dampen and repress the most cheerful and hopeful of human spirits, and even the most gushing song-birds will not sing in them.

Every good house should have chimneys of good size, well built and with a separate flue for each fire. The ancients, with all their wisdom, and the splendor of their public architecture, never dreamed of the use and beauty of chimneys in their domestic architecture. Alike from the laborer's hut, the nobleman's villa and the king's palace, the savory odors of cooking food along with the smoke from the fire under it escaped through a hole in the roof. We moderns now manage smoke in a more dignified manner as we dismiss it from our rooms through plain or ornamental chimneys, and in some cases through Gothic pinnacles and Tuscan columns. But in the disposal of smoke in this way we dismiss along with it a good share of the fire's heat, whereby is demonstrated the truth of the adage that there is no great gain without some small loss. We now need to devise a way to let out the smoke through chimneys without letting out so much heat at the same time, for we cannot dispense with the chimneys without great inconvenience, and also without loss in the appearance of our houses. Nothing adds more to the dignity and the picturesque appearance of a house than a cluster of graceful and strong chimney-tops rising above its roof. On the other hand, nothing gives it a more weak and dilapidated appearance than one or two chimney-tops of frail construction, with loosened bricks or stones ready to fall off on the passage of every fresh gust of wind. Much ornamentation of chimneys is out of place, but they should be built fireproof, solid and massive, and in suitable shape and height for the style of the house.

Closely allied to the chimneys is the roof of the house. As the chimneys suggest the warmth and hearth-fires within, so the roof suggests the shelter from the cold and storms without. It is the shield of the house, and therefore it should never be concealed or belittled, but should always rise with a steep pitch and expose itself to view and the weather. The charm to the eye of the old-fashioned country barn, which the artist so delights to paint, is the immense roof of gray shingles stretching out like the side of a hill, and by its amplitude suggesting a bounty that warms the heart. The picturesqueness of a house depends more upon its roof than upon any other part of it, and it is safe to say that picturesque and beautiful houses are rare which are not covered by steep and ample roofs.

According to Donald G. Mitchell a house without a porch is like a man without an eyebrow; it gives expression, and gives expression where you most want it; and in this dry and sunny climate the porch should be extended into a piazza. The piazza should be large enough to suggest hospitality, and broad enough to furnish a rendezvous for the family on a summer evening. It should be in keeping with the character and dignity of the house, with strong posts and honest workmanship in every part. A frail and mean porch or veranda attached to and made to do cheap service to a good house, and especially to a house built of brick or stone, is an incongruity offensive to every canon of good taste.

The interior arrangement of every good house should be convenient and adapted to the wants of its occupants. All the principal rooms should be on the first two floors, and the kitchen is certainly one of the principal rooms. It is the engine-room that runs the machinery of the house, and there is nothing that will compensate for its being a poor one. One of the greatest defects in many houses is the smallness of the rooms. The trouble is that the ordinary family wants a cozy little house with a good many rooms in it, and consequently the rooms are made so small that they easily become cluttered up and are so "stuffy" that there is hardly room to turn around in them. Fewer good-sized rooms covering the same floor space would be more convenient for use, and far more preferable from an artistic and

sanitary standpoint. It may be trenching upon the province of the ladies for me to say a word about interior decoration, but perhaps some of them would like to know what one of the uncouth sex thinks of their art in house decoration. The markets of to-day are full of beautiful furniture and artistic furnishings of all sorts, and housekeepers of good taste are able to make their homes, as many of them do, beautiful and enchanting. They succeed best who have a sense of the harmony of colors and materials, a proper regard for comfort as well as effect, and a love of simplicity surpassing their love for adornment.

The tendency of the times is towards over-decoration and the crowding of our houses with useless and inartistic *bric-á-brac* and vulgar and meaningless knickknacks of every shape and color. The trouble arises from the fact that most women think they are blessed with the artistic instinct, and are natural-born decorators and upholsterers. They accordingly are fond of household art and enter with zeal into every new decorative craze. They place screens where there is nothing to screen, and lamps where they are not needed, furbelowed with flowers and ruffles and shrouded with lace and ribbons. They cover chairs with senseless bags and tidies, and tie up the arms and legs of chairs with bows of ribbon. They scatter cushions of every form and color everywhere, on window-stools, floors, chairs and lounges, until a plain, old-fashioned man questions whether there is any place left for him to sit without crushing some so-called artistic creation of the mistress or her friends. They exclude the daylight from their rooms by dressing up the windows with curtains and draperies three or four deep. They pile the tables, shelves and stands with vases, jars, trays, pictures, photographs, shells, scarfs, books, *bonbon* boxes, baskets, lamps, potted plants, statuary, painted dishes, sachet bags and other vexatious trumpery until there is not room enough left for a postal-card or a newspaper. They even bury the picture and mirror-frames with fans, cards, photographs, chromos, souvenirs, sashes, frills, *frou-frou* and the rag-tag and bobtail of home decorations. It is self-evident to all sensible persons that this craze for stuffing and littering the house has been carried to a ridiculous excess, and it is time for house-

keepers to realize that barren simplicity is better than foolish adornment.

But while it is easy to overdo in house decoration there is no danger of overdoing in cleanliness and sanitary precautions. People have been building and living in houses for thousands of years, yet strange to say they do not know how to build them for perfect health and comfort. Once in a while, after some epidemic of diphtheria, typhoid fever, or other deadly disease, there is a public outcry against our methods of house-drainage and building, and the builder is denounced as "the curse of families." We sometimes feel like giving up life in our modern dwellings, where sewer-gas and subterranean poisons too often find a home, and taking up our abode in tents among the fields. In this age of scientific invention and physical knowledge, a good dwelling-house ought to be as healthy a place as there is on the planet; and, if it is not, the art of the architect and that of the sanitary engineer, were not combined in the construction of it. As a matter-of-fact, in by-gone years there has been little connection between architecture and sanitary engineering. The architect has drawn the plans and looked after the æsthetic aspects of the structure, and the plumber has looked after the sanitary arrangements in an imperfect way; and each has acted upon the theory that art and hygiene are not only unconnected, but are in some respects incompatible with each other. Whereas the architect and the plumber should always act in unison, as artistic and sanitary construction ought always to be combined in the erection of every house.

After the house is erected and occupied every part of it from cellar to attic, including the yard and outbuildings, should be kept clean and wholesome, and absolutely free from filth, mould and decaying matter of every sort. A few decaying vegetables in the cellar or some cubby-hole may breed the germs of diphtheria, typhoid fever or other malignant disease. Cleanliness, we are told by Saint Paul, is next to godliness, and this divine precept is as applicable to the cellar and back yard as to the parlor and front yard. The condition of the cellar and rear premises of a house is a better test of the owner's real character than anything to be found in the drawing-room or on the front

premises. In Dickens's story of the haunted house, the ghosts were found to have their home in the cesspool in the cellar, and no doubt some modern houses are haunted in the same way. Ghosts of this nature lurk in every filthy hole and hide in the damp walls, until they get a chance to prey upon some unlucky human occupant whose physical and mental condition is suitable to appease their appetite, when they pounce upon him and revel in his fevered brain and flesh.

Perhaps I ought not to close this paper without saying something about the outside environs of our houses. Of course the outside surroundings are not so essential as interior conveniences and cleanliness, and proper drainage and ventilation; but the grounds around a dwelling, when beautified by a good lawn, flowers, shrubbery and shade-trees, are always greatly improved and made more attractive. The secret of good outside adornment, like inside decoration, is the absence of fuss and feathers and the presence of naturalness and an air of solid comfort in keeping with the house and outbuildings. Nothing should be too set and formal. Untrodden walks with pine borders, artificial rockeries, grottoes and cast-iron dogs and deer, give to a lawn an unnatural and fixed-up aspect, which impresses the beholder with the idea that the place is kept for show rather than for use. A lawn too nice for children to play on or for grown-up people to walk and lounge on, had better be kept under a glass for the sole use of its prim and selfish owner, who is probably dead to the joyous wantonness and vigor of nature and a slave to all the repressing proprieties of life. Better far are the wild tangles of brier and brush around a house on an abandoned farm than excessive primness on an over-cared-for city lawn. As a general thing we do not need the services of a high-toned landscape gardener and a brace of surveyors to lay out at great expense, our grounds on a dead level and with perfect regularity, but we do need a little good taste and a sufficient love of nature to bring the glories of the woods and fields around our doors.

When our grounds are large enough a vegetable garden, fruit-trees and berry bushes, properly located, are not out of place, but rather aid in giving the premises a homelike appearance. A home is a place for health and comfort, shelter

and hospitality, birth and death, and its characteristics should be suggestive of daily life.

A man's culture and good-breeding can be better inferred from his bearing and conversation than from his dress and equipage; and likewise his refinement and character should be inferred from his home rather than from his position in fashionable society.

In establishing our homes let us remember that the most beautiful houses are not always the most expensive. It costs no more to put material into artistic and lovely shape than into ugly and inartistic form. In the language of Ruskin, "I would have our ordinary dwelling-houses built to last, and built to be lovely; as rich and full of pleasantness as may be, within and without."

18th February, A. D. 1892.

ESSAY

BY

J. CHAUNCEY LYFORD, OF WORCESTER.

Theme:—The Flora of Worcester County.

WHEN as occasionally happens in January or February, the seed merchant gratifies us with his annual catalogue, we feel again the desire to resume our excursions into field and wood, and long for the speedy coming of the time when we can again visit some well remembered flower in its native haunt, renewing its acquaintance and entering into its confidence.

It is then that for a brief period our youth is renewed; our cares are thrown aside and pleasant anticipations arise. At such times each experience throws us into one of those emotional conditions which has possessed us at this season of the year from the time of our earliest recollections. Every fall of snow and swirl of wind among bare branches seems but the finale of some performance, begun twenty years ago and continued without intermission through the intervening time; and the splendors and the depredations of a New England ice-storm, by some sort of magic, force us back again to the paternal roof-tree and into the arms of our grandsires.

Shut in between walls through the winter our thoughts now wander more eagerly through the boundless domain of out-of-doors. How is it at Rattlesnake Hill? Is anything a-stirring in the woods of Old Boylston? What is the news from the Sanctuary? What about Peat Meadow? When we were out there last June everything was green and in the full uniform of

active life; now there is nothing but snow, dead grass, and crackling twigs. The daylight is pale, and there is perfect quiet except for the gurgling of the ice-bound brook. It seems as if there were no living thing: no insect, no animal, no plant; perhaps a few fish and stupid frogs in the water, that is all. In summer how luxuriant and in winter how bare and forsaken!

Yet, if we look more closely, we observe that already in spite of the bitter cold, flower buds have begun to swell; the willow seems filled with sap, and its bark has assumed a ruddier hue; that here and there in open pools, the caddis worms and water-fleas are moving to and fro in a wilderness of newly grown draparnaldia and fontinalis. We had expected to find some life in the water but were not prepared for the swelling of buds and the coloring of bark. By what subtle influences are the forces set in motion, which start the flowing sap and form the vital protoplasm? Is there a clear dividing line between the fall of the fruit and the spring of the leaf? What is the earliest plant to bloom, and the second, and third, and when do they bloom so fast that no account can be kept? These and a hundred others, are the questions which come to our mind over and over again, impelling us to activity; so with overcoat and muffler we wander forth into the waste lands which skirt the city on every side.

Here, in New England, much of our interest in flowers is due to the succession of seasons. With what a keen interest do we, sometimes as early as the last of January, perceive the swelling of buds on the deciduous trees. Whatever may have been the weather, the maple and the elm always show something of the life that is within them, long before we notice other signs of coming spring. And what shall we say of the willow? Sometimes a warm spell in December brings forth the "pussies" as if the shrub were deceived by the early promise of warm weather. But the red alder is usually the first to show genuine flowers, and to shower forth its store of pollen. Yet in these winter months floral activity is shown chiefly by those trees and shrubs whose blossoms were started during the previous autumn; packages prepared and tied up, waiting merely to be opened.

Thus it is with the arbutus, the sweet gale, cassandra, and rhodora.

Of the herbaceous plants the skunk-cabbage is first in bloom, and its grotesque spathe may often be gathered while snow and ice are yet on the ground. Of striking character, it has about it nothing of sentiment, and is cared for only by botanists.

The first real spring flower, and to many the most interesting, is the hepatica or liver-leaf. Among the brown leaves in open oak woods appears this tender sylph, pale blue, white, or delicate reddish purple. So suddenly and stealthily has it come that we are not aware of its presence but under a certain impulse we look for it and find it. This influence is, may be, the distant partridge drumming his spring reveille; or a bevy of velvety butterflies flitting here and there among the naked branches; or the buzzing of flies and bees about the maple sap which drips from axe-wounds made in winter. This is the mark of April.

A little later comes the wind-flower with its slender stalk and drooping head, and if fortunate, you may chance upon some specimens of viola rotundifolia, the round-leaved, yellow violet of Bryant. I have in mind a secluded glen among dark hemlocks and gray ash trees, through which flows a sparkling brook, fringed with yellow cowslips and the springing stems of senecio and Indian poke. Ferns, which by and by will reach to the hips, are throwing up their graceful crooks, and not far away on a sloping bank, responding to the slanting rays of the vernal sun, a host of spring-beauties have taken full possession. For years the secret of their home has been zealously guarded by a slowly increasing few; but their long underground stems and subterranean tubers will preserve these frail creatures from the danger of extirpation. Nowhere else are such erythroniums and tall yellow violets as can be found in these same woods, and in early summer they are worthily succeeded by the purple cypripedium and the red Turk's Cap lily. All this wealth of floral display originates in the happy combination of light, warmth, moisture and fertile soil, which alone enables the rare plants to maintain a flourishing existence. Another locality abounds with catnip and pigeon-berry; and the rampant

bloodroot spreads a white carpet with its blossoms. Here also once grew another rare species, the moth-mullein.

In the early spring days we are gratified if each new walk adds a single flower to our list; after a time a half-dozen new varieties may be found in an afternoon and soon we cannot keep count of them, so fast do they appear. By the beginning of June one might gather fifty species in a day. Then follows a short lapse to be succeeded by the distinctively summer flowers, like the wild rose, the orchids and the white azalea. Most spring flowers are delicate in aroma, color, and structure. They have but little wood in them and soon wither when cut; those of summer are more robust, with more pronounced tones of yellow and red, suggestive of the heat and light of the advancing season.

The orchids are the aristocracy of our flora, and to plant lovers they have a peculiar fascination. This order is represented in our vicinity by about thirty species, all of which are curious and several are beautiful. There is at least one locality in Worcester where O. spectabilis has been common; in the Chandler St. woods grow at least four species of habenaria, a goodyera, two spiranthes and a cypripedium; while Peat Meadow is overrun by Pogonia ophioglossoides during the month of June, and curiously enough, among the thousands that grew there last year, there was found a single calopogon. Why is it that season after season we may find in a certain spot a single arethusa or caulophyllum or pettymovrel; never more, but always the "just one." Many of the orchids would grace the garden of a connoisseur, but unfortunately, the conditions under which they thrive can only with much difficulty be provided, so that attempts at cultivating them are usually followed by failure. I have often wondered what results would come from crossing some of our native cypripediums with introduced species, for greenhouse culture.

Of roses, we have three species, any of which is worthy of a place in our border; and the sweet-brier, I believe, may well be used as a stock for grafts of Hybrid Perpetuals, etc. Closely related to the rose, and almost a rose in reality, is the flowering raspberry, rare here abouts, but common enough

northward. At one time, fine specimens could be gathered in Mr. Joseph Walker's pasture on Mill street, but with the cutting of the wood I fear they have disappeared. It is one of our most striking wild flowers. The cardinal flower with its flaming head is the typical flower of summer; and when it has matured, autumn is near at hand. Its home is by the water-side, among the tall sedges and reeds of a clearing made in swampy woodland. Nowhere else in nature, I believe, is there an example of such depth of color combined with so much brightness. It is, I am glad to say, thoroughly domesticated at Elm Park.

Belonging especially to the autumn are the composite flowers; though the erigerons come in summer, and the dandelions and gnaphaliums in the spring. Of the asters there are about twenty species, of the goldenrods nearly as many more. To New England these homely plants are what the heather and broom are to the mother country. No spot of earth seems so parched and barren that some of these common plants may not thrive upon it; and we have no other class of herbaceous plants among us, which on a scale so grand affects the general coloring of the landscape.

From the first of September, till frost time, their yellows and blues gradually and insensibly become lost in the purple of the wild Indian grasses, producing that tone which is the delight of a painter, and even when the frost has touched them, their principal charm is not lost. It is after the snow has fallen and while the fringillas and the snowbuntings are foraging among them, that we observe aright the indescribable beauty of line which gives to each individual plant its character. Perhaps no other flower is so savagely parodied on canvas by the brush of the amateur. Certainly 'tis the delight of the true artist and his despair as well. It is not a mass of crude yellow; it is an aggregate of beautiful forms placed in proper relations to each other, and colored to harmonize with its natural surroundings.

While these plants are so common, their value is not appreciated, nor do they find a home in our lawns and gardens. Nevertheless, for certain purposes, they have no competitors. If it be desirable to connect the dwelling-house with the ground on

which it stands, so that it shall seem to spring from and grow out of the earth, this can best be done by planting a few native climbers like woodbine, clematis or bittersweet, along with masses of asters and goldenrod. How consistent this would be here in New England, beside the doubtful expedient of Boston ivy rising from among geraniums and petunias. The flower-garden has no more satisfying denizen than the Aster Novæ Angliæ, and it is through people living in the city that our country people will bye-and-bye come to know it and plant it. Strange perversity of nature!

Perhaps no one of our plants has been oftener brought into our gardens than the great yellow gerardia. Here is a species, which in its native wild, has developed into a strong, showy plant, captivating to any eye, gladly welcomed in any garden, but it defies cultivation. As I have seen it, it has grown in the shade of oak trees, and upon their presence it seems in some way to depend for subsistence. Smaller, yet more beautiful, is the rose gerardia, sweet scented also and frail as spun glass, content with bare gravel to grow upon, but dying when care is bestowed upon it.

Associated with falling leaves, the flight of birds, and the gathering of nuts is the coming of the gentians, bottle and fringed—eerie beings—endowed with a strange power over the human mind; for whoso among men discovers a growing gentian becomes possessed of an uncontrollable desire to pluck it, root and branch. Some plants we gather to make us a bouquet. Of others, we are satisfied with an armful; but this one is gathered till there are no more. Needless to say, few people ever see them.

Of the flowering plants in our vicinity, there have been reported not far from one thousand species, belonging to more than four hundred genera, which when we consider that we are removed from the seashore, and so have no marine flora, seems to be a very large number. A botanist living in Worcester is fortunately situated, as he is very near the limits of the northern and the southern plant zones; the spruce, the fir balsam, the beech and the Labrador tea have come down to us from Canada, while the chestnut, hickory, and butternut are not found very

far away to the north. Again, Lake Quinsigamond and the Shrewsbury Hills seem to be a dividing line between the flora of the low lying Atlantic plain and of the rolling hill region of the interior. In the neighborhood of Worcester, we have a comparatively heavy soil with underlying clay; while on the other side of the Leicester ridge, especially to the southwest, there is much sand and gravel, each locality with its characteristic plants. Throughout the country, the entire surface consists of diversified hill and valley, rocky pasture and shaded glen, dry gravel bank and well watered meadow; while a multitude of ponds, with their tributary springs sparkle in the landscape, lending variety to the scene, and variously modifying the forms of life which dwell on their banks.

Many of the ponds are as yet uncontaminated, and upon their borders or in their shallows are found the finer plants of that primitive time when the speckled trout swarmed in their waters, and the fish-hawk darted upon him from on high. Others have become the receptacles of city sewage, dye-house refuse, offal of slaughter-houses, and the waste of saw- and planing-mills. Here the white waterlily, the sweet violet, and the crowfoot, have given way to the spatter dock, rank pickerel-weed and other plants of low degree.

The roadside has its particular flowers, and the railroad banks especially harbor their characteristic flora. It is over these last that many an alien has found its way into our territory.

Wachusett has sufficient altitude to give us a semi-alpine flora, including, among others, the mountain maple, Potentilla tridentata, and the stinking currant, while a few other hills give us plants usually found further to the north. Probably no plant, indigenous with us, has so entirely disappeared that it may not be found in some hidden place; and in one way or another, in packages of seeds, in bales of hay, in imported wool, wafted on the winds or brought hither by birds, perhaps hundreds of new varieties have been introduced since the occupation by white men.

Now, when you ask an unconcerned person to say how many different plants he knows, twenty or forty or possibly one hundred completes his list. And when you tell him that more

than a thousand species are known to grow in this neighborhood, his surprise approaches very near to astonishment.

A large share of these are of course inconspicuous, and interesting only to the student of flowers. Yet many of them are beautiful and worthy of cultivation. Abroad, our asters, sunflowers, milkweeds and rudbeckias are held in high esteem, and the leading dealers in our own country are beginning to offer numbers of them to their customers.

Must there always be some enthusiastic Eckford or Lemoine to take in hand our wild roses, lilies, pentstemons, cranesbills or azaleas, and by nursing and petting, hybridizing and sorting out, at last produce something worthy of our notice! Or, shall we learn to admire our native flowers in all their wild beauty, before the hand of man has changed, almost beyond recognition, their familiar faces.

Many of the finest plants are not susceptible of cultivation, while others are quite so. The common violets soon overrun our gardens; so does the bloodroot, and the creeping speedwell. The small yellow lady's slipper and the streptocarpus seem to endure captivity, though they do not thrive, while cypripedium acaule and corydalis utterly refuse to live in their strange new home.

I wonder how it chances that for a few weeks, cynoglossum, corydalis and the round-leaved violet, spring up and flourish in some little glen, but always remain among the rarities.

The Labrador tea still grows at North Pond, and Cypripedium parviflorum in Millbury, while Herb Robert and arctostaphylos cling with the greatest tenacity to their restricted habitat on Rattlesnake Hill, though in small quantity and with no apparent increase. In contrast to these, I remember that fifteen years ago, in the young woods near the Hermitage in this city, the downy yellow violet and the hepatica grew luxuriantly. Now all are gone.

To the folly and thoughtlessness of our city people is due the extinction of certain species, but many remarkable cases of this kind cannot be so easily explained. I know where five years ago the delicate corydalis had gained entire possession of the ground topping an extensive ledge of rock; in a year most of

it had disappeared; the result, doubtless, of a very dry season; and where, two years ago, the ground was flaming scarlet with rare and curious painted-cup, I doubt if there is now a single specimen left, to hint of that former magnificence. Is it possible that the continuous ice of last winter was responsible for the mischief? In another spot where once grew the larger yellow lady's slipper, the cutting off of the sheltering wood seems to have caused the extinction of the species.

On the other hand, the growth of wood is doubtless detrimental to the continuance of certain plants which enjoy wind and sunshine. Thirty years ago, in an open space in a great pine wood I saw and wondered at the blazing disks of two or three plants of liatris—or devil's bit. For years the plant did not overstep the narrow clearing, but ten years later when the wood was removed my liatris took a sudden start, and colonized the surrounding acres, and the plant was no longer rare. I am reminded too, of a sterile lowland pasture, which, after being well burned over, presented the surprising spectacle of tall, flaunting fire-weed in the greatest profusion. This was a plant never before seen in that neighborhood. So too, on the sandy embankment of the Boston and Albany R. R. at Spencer, I saw my first specimen of yellow clover, a few slender stems, but now rampant and common.

Nearly all the forests of the forefathers have fallen a prey to the woodman's axe; it is only here and there, in almost inaccessible places, that a few imperfect specimens remain. The axe in its ravages has been ably seconded by the locomotive engine and the steam saw-mill. For fifty years these two agents have carried on destruction, each in its own way. Fortunate it is for us in New England that chestnut and oak are so easily renewed by suckers from the old stump, and that our waste lands are so quickly possessed by the pine; else the continuous drain to supply railroad-ties, telegraph-poles and box-lumber would soon make the country a desert. When chestnuts have attained to the size of fence-posts, and pines to ladders, they are doomed, and not they alone, but every tree, bush and shrub with which they may have kept company.

This destructive cut-and-slash method of clearing-up woodland

is an evil for which we or our children must sometime suffer. There are now among us wise ones who see in this the reason for short and irregular water-supply and the slow but sure change of climate which renders precarious the cultivation of the peach and the apricot, the arbor vitæ and the balsam-fir. What can a republican government do to regulate such matters?

As to the relation of railroads to forest-renewal, this I believe is true, that on each side of the Boston & Albany railroad (and it is like the others) there are long reaches where for miles every inch of ground has been repeatedly burned over, as the charred and fallen young chestnuts and oaks will now testify. By such a means, not only is the young growth killed or stunted at once, but in a short time the land becomes entirely unproductive, and unsuited to the sustaining of plant life.

Yet to a person unused to such a sight, a view from a lofty hilltop out over the country, is most surprising. Those of us who have been educated by the map and the commercial gazette, have come to think of the county as covered with villages, farm-houses and clearings, and that the woods have for the most part vanished. Nothing could be farther from the truth. No matter what else has happened, the white pine and the chestnut are on hand, ready to take possession; and in the winter especially, when the ground is white with snow, it is easy to see that we still have much young forest; and the very self-evidence of this truth, it is, which makes our people so careless of the future. The earth cannot be continually robbed with impunity. In olden times, every estate had its wood-lot, where in winter was cut the year's supply of wood; to-day, many of the poorer farmers depend wholly upon the alder swamp, or the gray-birch barren.

When, on every hand nature so plainly teaches the lesson, it is strange that our country people have not gained the wisdom to make plantations of trees on their waste lands, especially since much of the necessary work could well be done at times when they have little else to do. I suspect, however, that to most of us, a penny to-day is better than a dollar next century; and that short-term endowment orders are more to the popular taste than tree-planting. This also is true. In many of our rural communities, there are numbers of men watching the opportunity to

purchase woodland, sold by the children, at auction, after the death of the father and grandfather, a part of whose estate it has been for a century.

The purchase made, with axe and saw the land is cleared, and desolation total follows. This is the first evident forerunner of one of those abandoned farms we hear so much about here in Massachusetts. I know of localities where one man has left his mark on a half-dozen townships, thanks to the stupidity of a people who will not be bothered with what is of such prime importance to their welfare.

An interesting feature of our country scenery is the numerous shaded roads which wind about through the woods, so little used that narrow ribbons of herbage separate the horse tracks from those made by wheels. It is in some of these out-of-the-way thoroughfares that we find nature, but little changed by the hand of man, and we mark with pleasure the absence of the coarse, exotic, introduced plants, which so soon take possession of neglected corners and abandoned fields. It is here that we see the word "border" exemplified in its proper sense. The trodden paths are fringed by low-growing grasses, sedges and homely annuals, like mouse-ear everlasting, sand-spurrey and false pennyroyal. The gutter on either side is occupied by various hypericums, yarrow and vervain, and if the subsoil is wet, there will be an array of equisetums and rushes; beyond, the brambles, huckleberry bushes, cornels and viburnums carry the eye, by easy curves, to the overhanging shelter of young maples, chestnuts and oaks, accentuated here and there by a dark pine or hemlock; fit home for the chewink and the brown thrush. But as civilization advances, the word goes forth that the roads must be improved, and some fine day in summer, after haying is done, Reuben and Zebedee come forth with plow, spade and axe to carve from the roadside their annual tribute of taxes. Plow where the resistance is least, cut where vegetation is within easiest reach; grub, pick and maul; carry clay from hollow to hilltop, and sand from hilltop to hollow; wait for the rain and winter to repair the injury as best they can; then next summer and the next, repeat the operation. This is the formula for New

England road-making; not at all conducive to that unity of landscape, the effect of which is so restful to a wornout spirit.

To give a true account of our flora, one must speak of the grass meadow, the peat meadow, the swamp, the rocky declivity, the open oak wood, the dry hill pasture, the dark pinery, the pond and the brookside; for each of these has its characteristic plants; here, delicate and shy; there, rank and obtrusive; here, loving the water and shade; there, seeking warmth and sunshine; but always in harmony, and combining to lend a special charm to New England scenery. The little brook which gurgles through the meadow is bordered with sedges, coarse and fine, and these are as graceful as anything in nature. Elodes, lysimachia, skullcap and turtle-head drop their petals into the water; and lost, down among the taller herbage, are myriads of hooded violets, sweet-scented violets and blue-eyed grass. Here and there, at a later season, the water stands in a thin sheet, skirted on every side by tall cat-tails and the flower-de-luce; while purple cranberry vines fill the intervening spaces. Carex bullata growing upon tussocks will bye-and-bye go to neighboring barns, to be fed out to half-starved cattle; but now, its surroundings are resplendent with the presence of those doughty sister eupatoriums, thoroughwort and queen-of-the-meadow. Upon the borders, bushes of the high blueberry, andromeda, various viburnums, and poison-dogwood, make a gradual transition from the open to the dark woods beyond. In winter, when the broad level is buried in snow, and the shrubbery is weighted with its ermine load, green laurels and dark pines, by their presence, emphasize the loneliness of the scene, and bend the mind to retrospection.

The vegetation is less luxuriant in the *Peat Meadow*, and broader intervals are without a covering, save perhaps of brown moss or liverwort. The bogs are deeper, the shrubbery less vigorous, and we note that the few trees are yellow and gray with a rich growth of lichen. Sundew, both round leaved and long, flourishes, in company with umbrellaed marchantia. Bladderwort gathers its prey in yon brackish pool and cassandra paints the distance, in tones of madder brown, sienna and purple. Here in spring grows the lance-leaved violet, and at about the same time

the pogonia, our sweetest orchid, may be numbered in thousands. Here skirted by a growth of young alders, is a quagmire from which peat was once taken. Greenbrier and nightshade bind the brush into an impenetrable thicket, and the scarlet berries of the latter are reflected in the waters, among the leaves of sparganium and its blooming heads of white. In open woods, grow foxglove, oxalis, lousewort and brunella. Among the pines, pyrola, moneses, wintergreen, Indian pipe, and mitchella; in the pasture, pennyroyal, polygala, cinquefoil and ladies' tresses; in the sheltered rockery, columbine, saxifrage, bloodroot, and thalictrum.

And so one might go on, to weariness, writing down catalogues of names. But when we have thus classified plants according to locality and habitat, we perceive that we have but looked upon them from one side. One lesson may be derived, however, from such a list. If, in putting down the names, we give place to those only, for which we have some real affection, we shall unconsciously omit a number of such plants as chenopodium, ox-eye daisy, purslane, chickweed, yellow dock, and sheep sorrel, weeds with such vigorous constitutions that they can survive, when those which were their predecessors have gone to the wall. For, strangely, a large share of them are foreigners, introduced into our land from across the waters, where perhaps, during centuries of cultivation, they have developed their baneful characters. Always the overpowering race comes from the east, if we except the potato beetle and Clodea Canadensis, which, if common report may be relied upon, are creating in England, at least, a proper regard for American institutions and methods. Besides the water weed, others of our plants which represent us abroad are the yellow wood-sorrel, and more remarkable yet, Claytonia Virginiana, each of which has become an agricultural pest over large portions of England. Then also, several species of mimulus, the naïad, ladies' tresses, and the blue Bermuda grass-lily have gained a footing, but live among their cousins in peace, much in the same way as English bind-weed, bladder-campion and celandine live with us.

Upon quiet waters in late summer may be seen myriads of our smallest flowering plant, lemna—the larger and smaller duck-

meats—with their two or three oval leaves floating above a half-dozen straight and slender roots extending into the water, a whole plant as large over as the section of a pea. At the other end of the scale comes one of our large pines, one hundred feet high, or perhaps an elm like the giant at Lancaster, whose trunk is five feet in diameter. Perhaps in no part of the country is there a more pleasing variety of trees and shrubs than we have with us. Of trees fifteen feet or more high there are sixty-one species, and of shrubs as many as seventy. These are adapted to every kind of home and park planting, and should be largely employed in place of introduced varieties. That they are indigenous, proves their ability to vanquish others in the struggle for existence; in other words, that they are best adapted to the climatic and geological conditions of the region in which they have lived. Because a Colorado spruce, or a Salisburia adiantum thrives with us during the first twenty years of its growth, let it not be supposed that in a hundred years, it can compare with a native white oak, or pine or ash of the same age. So let us plant largely of the trees we have about us, that our children and their children may be glad that we had the wisdom to read aright this lesson so plainly set before us by the Maker.

Among our most desirable shrubs, are the cornels and viburnums in variety, the azaleas, pink and white, the rhododendron, the kalmia or spoon-wood, the spice-bush, button-bush and clethra. Many of these may now be seen in magnificent form at Elm Park, where, happily for us Mr. Lincoln planted them, a generation before the general public could properly appreciate them. Leading nurserymen are now making a specialty of native trees and shrubs; and the best periodicals like "Garden and Forest," and "Meehan's Monthly," never cease insisting upon their merits. By planting with due consideration, there is no time from May, when the leatherwood and spice-bush are in bloom, till November, when the witch hazel puts forth its golden fringes, when we may not discover new beauties in them, of bark, or leaf, or flower, or form. Clethra with its sweet blossoms, coming as it does at a time when most shrubs are in their summer resting stage, has a value which would make it beyond price, were it some rare exotic. Labrador tea can still

be found in one locality within our city limits. I cannot but think it would thrive, if transplanted to Elm Park, where its roots might always be in or very close to the water. The Rhodora too, I miss at that place.* The ground savin, though a nuisance in our hillside pastures, is really a most beautiful hardy evergreen plant, and it should be a genuine delight upon the lawn of a city dweller in winter time.

"But," many persons say, "why all this noise about the lily and the rose. Our interest lies not in delights for the eye and the nostril, we must eat and drink, and have clothes to wear." On this point they should read what Dean Hole has to say in his delightful "Book about Roses," concerning the working men of Nottingham.

At its beginning botany means the violet, the buttercup, and the dandelion; a little way along it branches and leads off to two designations, the highest in art, and the highest in economics. Average people are not touched by the examples of Turner and Reynolds, Millet and Delacroix, who may have been led to the grandest realms of the beautiful by the early contemplation of some simple natural form—but we ought to make some of them understand that what we know of plants, means finally, what we know of wheat and potatoes, the orange and the grape, of cotton, and flax, and silk; that upon plants we depend for our welfare in this world and our salvation in the next. Nothing is of more importance. Every college, agricultural and otherwise, is establishing professorships in botany, every government shows the deepest interest in the subject, and every citizen should help along the cause in such degree as he has ability. Let the single fact that Australia has, for a number of years, made a standing offer of thousands of dollars for a method of destroying the rust of wheat, silence those who are crying for something with money in it. The Worcester Natural History Society and the Worcester Horticultural Society have for a long time done good work in this field. Let us interest the children in plants.

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*Yet it is there, though not in affluence. E. W. L.

10th March, A. D. 1892.

ESSAY

BY

E. W. WOOD, OF WEST NEWTON.

Theme :—Chrysanthemum ; Its Improved Variety and Cultivation.

THE Rose has long held undisputed reign as the Queen of flowers, but if the demands of fashion and commerce are to decide superiority, we shall be obliged to adopt the English classification, and acknowledge the Chrysanthemum as the Autumn Queen. For at least three months in the year, for ornamental plants or house decoration with cut blooms, the Chrysanthemum has no peer. The rapidity with which it has come into favor, the multiplication and improvement in varieties, and the improved methods of cultivation, are without a precedent in the florist's experience.

Not until within the last twenty years has the Chrysanthemum been grown in this country to any considerable extent, either as a decorative plant or as a florist's flower. Its first introduction into European countries was in 1789, Mr. Blanchard, a merchant of Marseilles, receiving a consignment of three varieties, white, violet, and purple, the latter only reaching him alive. The first Chrysanthemum that ever flowered in England, bloomed in Colville's nursery in the King's Road, Chelsea, in 1795. The varieties increased slowly until in 1826, forty-eight varieties were growing in the Horticultural Gardens, at Chiswick.

The first Chrysanthemum exhibition was held at Stoke Newington, in 1846. In the United States previous to 1880, there were not more than three or four exhibitions at which Chrysan-

themums were shown during the year, in the whole country; the past year, exhibitions where the Chrysanthemum was the only or the principal attraction, were held in almost every city of any considerable size in the New England, Middle and Western States from Maine to California.

In the earlier years only the Chinese varieties consisting of the Reflexed and Incurved Large-flowered, the Anemone and Pompons were cultivated; later the Japanese varieties with their long tubular or flat twisted petals were introduced; and since, by crossing, the varieties have become so intermingled that the lines of demarcation have almost become obliterated. Two National Chrysanthemum Societies of England issued a catalogue in 1890, in which an effort was made to include and classify every variety then in cultivation in that country, and the Society of American Florists propose soon to issue a catalogue including all the known varieties in cultivation in this country up to 1892, the object being to secure correct nomenclature and to assist exhibitors in placing their specimens in the classes to which they properly belong. But the constant crossing of the Japanese with the Large-flowered, will necessitate frequent revision to avoid controversy between judges and exhibitors in staging the blooms.

The methods of growing the Chrysanthemum have essentially changed within the past few years. Formerly, and to some extent at the present time, it is the practice to take the cuttings in January and February, and grow them in a cool house near the glass to prevent their becoming drawn or leggy until the first of April, then transferring them into cold frames, giving plenty of air and in pleasant days removing the sashes. About first to tenth of May, the plants may be turned from the pots into the open ground allowing six square feet of space to each plant, nipping them three or four times, depending upon the varieties, to produce a shrubby growth and secure a desirable shape of the plant; the nipping back of the plants should not be continued later than the middle of July. If the plants are set in good soil and properly cared for, they should average three feet in height and the same in diameter by the middle of August, when they should be taken up and potted. In making this change, the most important matter is having suitable potting

material which may be prepared as follows: In the early Spring take the turf or top spit from good soil from a pasture if to be obtained, and mix with stable manure, that from the cow stable to be preferred, in the proportion of two-thirds turf and one-third manure, mixing two or three times before using.

The plants should be taken up and potted from the twentieth to the thirtieth of August. The most favorable time to take up the plants is when the weather is warm and the soil dry enough to shake easily from the roots,—remove carefully all the suckers from among the roots and pot immediately, exposing the roots to the air as little as possible; ten, eleven, and twelve inch pots will be the sizes generally required; press the earth firmly in the pots and wet the soil thoroughly with water, let the plants stand two or three days in partial shade or until they commence making new roots, when the pots may be plunged in the open ground where they may remain until danger from frost. In staging or placing the plants on the benches, they should not be crowded as they will continue to extend their side branches until the buds are formed. Care must be taken to keep the plants well watered as any neglect will cause them to wilt and check their growth.

As soon as the buds are formed, if huge and handsome blooms instead of clusters of flowers are desired, disbudding must be practiced. At the end of all the branches there will be three or four terminal buds, all but one of which should be removed, this may easily be done with a sharp-pointed knife, being careful not to injure the bud left to produce the bloom; it will be necessary to take off most, and if the best flowers are desired, all the lateral buds, but no definite rule can be given, as some varieties set their buds much more thickly than others. Give air freely, keeping the ventilators open night and day when the temperature is above the freezing point. As soon as the plants show buds, commence watering with liquid manure every three or four days, making it weak at first, increasing the strength as the application is continued until the plants are in full bloom. Sometimes in cold, damp weather or when sudden changes in the atmosphere occur, mildew will make its appearance on the foliage; this may be prevented or overcome by shutting up the house and evaporating sulphur, which may be safely done by

melting flower of sulphur in a porcelain lined kettle on an oil stove or lamp, giving a sufficient heat to melt the sulphur and throw off the vapor but not enough to burn the sulphur, as the fumes are fatal to all plant life. The above treatment should give satisfactory results with bush plants.

Within the last three or four years the demand for large flowers instead of sprays has caused the commercial growers to change their method of growing the Chrysanthemum. Some of the larger growers devote several houses to growing the plants to produce but a single flower; they are grown on benches with six inches depth of soil. The bottom of the benches is made with narrow boards with spaces between the boards three-fourths to one inch in width, and covered with some coarse refuse to prevent the soil washing through. The advantage of a bench over a solid bed, is that in the latter, at the time when it is most necessary to feed the plants with liquid manure, the soil is liable to become sour, while the bench affords free and quick drainage.

When the plants are ready the bench should be filled with a compost the same as recommended for bush plants. The plants are struck in April or early in May, and potted in three inch pots or pricked out into boxes and placed in the open air; the cold frame makes a convenient place to grow the young plants, removing the glass as soon as the plants become established.

The plants may be turned out of the pots into the benches any time in the month of June, in rows six inches apart, and the plants six inches apart in the rows; when established, a stake should be placed to each plant and the plants tied to them as they continue to grow. The dwarf-growing varieties will require stakes from three to four feet in length, the taller varieties six or eight feet. All lateral or side shoots should be broken off as soon as they appear.

The most important point in growing large blooms, is securing the right bud at the right time. To do this no definite rule can be given; it can only be learned by experience with the different varieties. The crown bud is the most desirable if it can be secured at the right time. Occasionally buds will appear on the ends of the shoots in July, they should be treated as freaks and removed. The crown bud appears at the end of the growth,

and three lateral shoots start at once at its base, which, if allowed to grow, will destroy the bud. If this bud appears between August 15th and September 10th, with most varieties it is safe to take it; and the three offsets at the base should be broken off as soon as it can be done without injuring the bud, all laterals to be kept broken off the plant after the bud is taken. If the crown bud appears too early it must be removed and one of the three laterals allowed to grow, and upon the end of this will appear the trimmed bud which differs from the crown bud, by being a cluster of buds which, as soon as it can safely be done should be reduced to one, leaving the centre one, if perfect. Care will be required in removing the surplus buds without injuring the one that remains.

As soon as the plants show buds, commence feeding with liquid manure, applying it every two or three days, weak at first, increasing the strength until the plants are in full bloom. Soot water mixed occasionally with the liquid dressing improves the color of both the foliage and the flowers.

While the plants are making their growth, give all the air possible from top ventilation both day and night, until danger from frost. If any mildew makes its appearance evaporate sulphur.

If it is desirable to grow the plants on a stage in the greenhouse, by shifting the plants from three into four inch pots before they become potbound, and again potting them firmly in six inch pots about the first of August, and placing them as close as they can stand on the stage, as large a proportion of exhibition blooms may be grown as in the benches, but they will require more attention to prevent the soil becoming dry. As the plants come into flower give fire heat in moist or cool weather sufficient to give a temperature of 45° to 50° at night. The blooms should be kept tied in an upright position to prevent their growing one sided.

A selection of the best varieties is constantly becoming more difficult, owing to the large number of new varieties being added every year that have not been sufficiently tested to prove their merit for general cultivation. In making up a collection there are three points to be considered, first, varieties that will furnish

flowers through the entire season; second, a desirable assortment of colors, and third, plants of a vigorous growth that can be depended upon under ordinary treatment to produce satisfactory blooms. In naming varieties to cover the above points, I have omitted all seedlings of 1891, as experience has shown that many seedlings that have received prizes or certificates the first year, have proved worthless and have never made a second appearance at an exhibition.

I would suggest as the

BEST SIX EARLY VARIETIES:

Ivory,	M. Delaux,
Pres. Hyde,	Jessica,
Rohallion,	L'Africaine.

BEST SIX LATE VARIETIES:

W. H. Lincoln,	Mrs. Humphery,
H. E. Widener,	Lilian B. Bird,
Christmas Eve,	Miss Winnie Wannamaker.

BEST TWELVE EXHIBITION VARIETIES:

Ada Spaulding,	Wabun,
H. E. Widener,	V. H. Hallock,
Mrs. Charles Wheeler,	L. Canning,
Kioto,	Mrs. Irving Clark,
Violet Rose,	W. H. Lincoln,
Etoile de Lyon,	Mrs. J. N. Gerard.

BEST SIX EXHIBITION VARIETIES INCURVED:

Mabel Ward,	Prince Alfred,
Jeanne d'Arc,	Mrs. Heale,
Mrs. S. Coleman,	Jardin des Plantes.

BEST SIX EXHIBITION VARIETIES REFLEXED:

Cullingfordii,	M. Viviand Morel,
White Christine,	Elsie,
Pink Christine,	Pres. Hyde.

It has been said that "growing seedlings is the poetry of gardening," and I know of no flower offering greater inducements or more quickly realizing results in growing from seed than the

Chrysanthemum. There were shown at the different exhibitions in this country in 1891, about one hundred seedling varieties that received either prizes or certificates of merit, and a considerable number of these were sold at prices from twenty-five to two hundred and fifty dollars for a single plant and the control of the stock.

The effort the past few years has been to increase the size and there have been some remarkable successes in that direction, but at present the attention of growers is being turned towards the improvement in color. There is perhaps slight chance for improvement in the present shades of white and yellow, but the dark shades have come from the original purple, and we are yet wanting those bright shades of red and pink that we have in the rose.

Dr. Walcott was among the first if not the first to grow Chrysanthemums from American grown seed in this country in 1882. Previous to that time the English growers had not been able to save any seed, and had sent their plants to the Channel Islands from which to get their supply, and they have since been obliged to work at great disadvantage owing to the cloudy wet weather at the time the Chrysanthemums are in bloom, and they have practiced cutting in the branches after the plants are through blooming and from the blooms grown on winter shoots have been able to gather some seed.

The bright sunny days with us are favorable for maturing the seed ; the requisites for success are sunlight, air and a dry atmosphere. The principal objects in cross-breeding are improvement in color, form, size or vigor of plant, and success will depend largely upon a proper selection of the parent plants. Having a definite object in view select the nearest approach to what is desired. The highest type of red at present is the Cullingfordii ; in pink, Mrs. Irving Clark ; in white and yellow we have many good ones, perhaps none better than Ivory in the former and Jardin des Plantes in the latter.

When the pollen appears the flowers should be protected from bees and other insects, and after transferring the pollen with a fine brush the flower petals should be cut off to prevent moisture by their decay, and if the plants can be placed in a room by

themselves with full sunlight, plenty of air, using netting over the ventilators with a dry atmosphere, giving only water enough at the root to prevent the plants from flagging, success will surely reward your efforts.

The Chrysanthemum supplies a long felt want; it comes at a time when there is a dearth of flowers; the summer flowers are past, and the winter forcing plants are not yet in bloom;—it is easily and quickly grown, and may be so grown as to satisfactorily meet all occasions for decoration. For house decoration with plants, the cuttings taken in May and grown in the open ground until 1st September, and potted in seven inch pots, make fine bush plants and for many places are more desirable than the large plants, from the earlier struck cuttings, and if kept properly watered and not subjected to too great heat, they will keep two or three weeks in good condition. But the cut blooms are more generally used than plants and with proper care they may be kept two weeks in good condition if placed in vases of water, and the water changed every morning, and a small piece of the lower part of the stem cut off just enough to leave a fresh cut when changing the water and placed in a cool room during the night. With the prestige already attained and with favorable opportunities for still further improvements, we may reasonably expect the Chrysanthemum to hold its rank as the favorite flowering autumn plant.

24th March, A. D. 1892.

ESSAY

BY

CHARLES GREENWOOD, OF WORCESTER.

Theme :—Vegetable Cultivation. For the Amateur. For the Market Gardener.

THE cultivation of vegetables as a special business, though one of the youngest of the many branches of farming has rapidly grown to be one of the most important in the thickly settled and manufacturing sections of the country. Although in the production of the absolute necessities of life it may not rank with dairying, the production of beef, pork and mutton, or the cultivation of the cereals, in the employment it furnishes to men and teams, and the profit it yields to the skilful cultivator (in proportion to the number of acres), it easily outranks them all. It is true that a large part of the vegetables might be classed as the non-essentials of life, and were but a few years ago considered to be necessities, yet from their abundance and cheapness they are within the easy reach of all, and this is as much to the advantage of the gardener as though they were absolutely indispensable.

It has been said, I presume by some good sister who never found a man's heart, or some who have and wish they hadn't, that the way to a man's heart was through his stomach, and every producer of fine farm products, knows that the way to his pocketbook is by the same route, for whatever the "good book" may advise to the contrary, it is a well known fact that man does take a great deal of thought for the morrow, saying—what shall I eat?

The market gardeners have, I think, been a decided help to

those engaged in other branches of farming. They being located near the large towns and cities where land is high, have been forced to get their income from a limited area; this could be accomplished only by very liberal fertilization and thorough cultivation, and by making that branch of farming a specialty.

The success of this course has been so marked, it has been an incentive to those engaged in other branches of farming to apply the same principles in their practice; and thus they have been one of the many helps in bringing all branches of agricultural pursuits to their present high state of perfection, and bringing agriculture as a whole to be regarded as it should be, not only the most important and healthful but the pleasantest and most ennobling occupation of man. The day has long since passed when agriculture was looked upon as degrading, fit only for those who had not wit enough to earn their living at anything else, or when any man need feel called upon to offer an apology for being engaged in a business beneath his dignity, or when there was not ample opportunity to use his brain as well as brawn. In agriculture as in all other business the largest measure of success comes to the man of the most brain power, the ability to reason from cause and effect. The success that has been attained by the most successful market gardeners has led to the quite general belief that they possessed some wonderful secret or key to success which they could impart to their less successful and struggling brothers if they would, and it is a noticeable fact that in essays and debates they have been prone to deal more in glittering generalities than in exact and specific statements, and we certainly cannot blame any man for protecting his own interests; for if a farmer or gardener has by years of careful study and observation learned any secret about the business he should reap the benefit the same as the inventor whose invention is protected by a patent. But is there any such secret to success in agricultural pursuits? Are not the conditions of agricultural and mechanical labor entirely different? A certain machine or piece of furniture or other mechanical work would be done in different shops by the same processes, but owing to the varied conditions of our farms, in soil, location, etc., no rules can be formulated, that will apply to them all. Each

man must work out his own agricultural salvation by learning the secret of success on *his* farm and under the conditions that surround him, with little regard to his neighbor. To no occupation does the truth of the saying that "no man was ever great by imitation," apply with greater force than farming. There is much to be learned by observation and discussion, but experience is the only thorough teacher.

As I have not learned the mighty secret that would enable all to grow all vegetables to perfection, and thus flood the market at all times, I am free from that harrowing fear that may have possessed some of my predecessors in writing upon this subject, lest they should in an unguarded moment let fall the precious knowledge, for by telling what I guess at can neither hurt my business or help my competitors. The business of growing vegetables for market has become so important and the demands of the people so exacting, that nearly all of the large growers now use greenhouses in which many of the choicest summer vegetables are produced in mid-winter. As I have had no experience in this kind of gardening, what I have to say of growing crops under glass, must be confined to hotbeds; in this the amateur may find some help and the professional will not need it. Every one who grows vegetables for market to any extent, should have glass enough to raise his own plants for the field; he cannot afford to buy them for two reasons, he can raise nice plants cheaper than he can buy them, and he cannot afford to buy such plants as are usually offered for sale at any price. These plants will do for the family garden, but will not produce a crop early enough to pay the gardener.

The management of hotbeds is a very exacting business as is the whole of the vegetable business, and demands close attention seven days in the week. The locations of hotbeds may face any point from east to south, the frames should be of plank and be put in the ground in the fall, and for the beds that are to be used all winter, the frames should be set into the ground to within four or five inches of the top; those that will not be used till spring, need not be set into the ground much. For the winter beds the sub-soil must be taken out to make the bed of sufficient depth for the heat required and the soil to be used for the crops

put in its place; when the frames are all in, the soil should be covered a few inches in depth with forest leaves or old hay or straw to keep out the frost, the shutters put on the frames to keep out the storms, and if the paths between the beds are filled with leaves to pervent the ground from freezing there all the better. Beds protected in this way can be started any mild day in winter and will require less heat than if the ground is allowed to freeze. The beds should pitch four or five inches in the width so as to carry the water off readily. A tight board fence about seven feet high should be built three and one-half feet from the back side of the bed to break the winds, the fence should slant back about a foot in the height, this will furnish a convenient support against which to lean shutters and mats. The first crop to start is lettuce and may be started at any time that suits the grower, but the growth is so slow in the short days of early winter that it hardly pays to sow the seed till about Jan. 1st. The seed bed should be made of about 18 or 20 inches of fresh horse manure covered with 6 or 8 inches of fine sandy soil, the seed should not be sown for five or six days, this will give time to start the weed seed and by working the bed over two or three times the weeds will be destroyed and the first strong heat of the manure pass off insuring stronger plants. When the second set of leaves are well devoloped a new bed should be prepared using less manure, and the plants pricked out 2 inches apart each way, this will give large strong plants ready for the heading bed about the 10th of Feb.; 10 or 12 inches of manure will be sufficient for this bed. A second lot of plants should be grown ready to fill the beds as soon as the first crop is out, and the second crop can be followed by cucumbers having them well grown in pots or old strawberry baskets; the heat need not be renewed in this bed, as the sun will furnish heat enough, or cucumbers may follow the first crop of lettuce; by putting in new strong heat, they will come into bearing the last of May. Seed for early crop of out-door lettuce should be sown about March 10th and be transplanted once under glass; there should be but very little heat under these plants; this will give good strong plants ready for the field the last week in April which is about as early as it will pay to set them; if set

too early they become partially stunted and do not make as large nice heads; seed should be sown in open ground as soon as it can be worked, this crop will make close connections with the one started under glass, and by sowing at intervals of ten days or two weeks a supply can be had all summer; to get nice lettuce in July and August it must be grown on cool moist ground as it will not stand the heat of dry early ground.

This fine vegetable has like many others grown in favor very rapidily during the last ten years; it is a very hardy vegetable as regards temperature but is subject to various diseases that render it difficult to grow to perfection under glass except to those well skilled in the business, and even the best growers are sometimes sufferers from rot or burning. According to my experience and observation there are various causes which produce these results, otherwise the cause could be determined and a remedy applied. The weather of course has much to do with producing a healthy or unhealthy growth. If bright sunny weather could be had at all times it would be comparatively easy to grow the crop to perfection, but as the weather is beyond our control we must make the other conditions as favorable as possible. As the teamster must gauge his load according to the hardest part of the road, so the gardener must make the conditions of soil and heat such as will be reasonably sure to carry his crop through cold stormy weather in good condition. Among the many causes of rot and mildew too much heat and consequent rapid growth is the most fruitful. It has been said that, "Keep the feet warm and the head cool," is a rule that applies to the vegetable as well as the human family and this is undoubtedly true; but in regard to lettuce it is very easy to overdo the matter in regard to warming the feet, while in the colder weather it will hardly do to let much of the ice cold air on the plants; this trouble can be obviated somewhat by laying the mats alongside the bed after the sash is raised, this will allow the surplus heat to pass off and prevent the wind blowing direct upon the lettuce. In growing lettuce or any other crop it is well to consider somewhat the natural conditions under which it does the best and lettuce it is well-known belongs to the spring and early summer, and grows to perfection when the soil is only moder-

ately warm and moist. But in our zeal to study and follow nature we should not lose sight of the fact that we are growing the crop under unnatural conditions and for other than nature's uses. In the economy of nature the law seems to be merely the perpetuation of the species or the sustenance of a higher order of creation, but our aim is not only to perpetuate, but to improve the species and minister to the comfort, health and happiness of man, the highest order of creation, and if possible add somewhat to our own store of wordly treasure. Another fruitful cause of an unhealthy condition of lettuce, is keeping it too close and growing it too fast at night and in dull cloudy weather. When there is much heat under it there should be a little ventilation left on during the night. The beds must be covered every day if possible and in case of a heavy snow storm when they cannot be uncovered they should be ventilated.

When the rot is caused by webs of moisture that sometimes collect on the soil a liberal sprinkling of coarse sand is an effectual remedy. The watering of the beds is a very important part of the work, the time to water and the amount to use will depend on the weather and the size of the lettuce; during the short days and when the plants are small I would water in the morning of a sunny day, this gives the soil a chance to dry off and warm up before night. When the lettuce covers the ground and is beginning to head, I would water after 3 P. M., this gives the water a chance to soak into the ground and feed the plants instead of being evaporated too quickly by the heat of the sun, and, what is more important it prevents scalding in the head, which is apt to result if watered in the morning and the sun shining on it during the day. Of the great number of varieties but few are really desirable for market; for the amateur who grows for his own use and to give to his friends, the list is longer. For market the white seed Tennisball for glass and the black seed for field culture are the best. The Boston-curled is very showy and a limited amount is demanded, though more for garnishing than to eat, as it is very tough.

The Hanson is tender nice lettuce, but it grows too large to be profitable; we can't sell dozens enough. The black seed Tennisball is large enough to suit any reasonable consumer, and

the quality is unsurpassed. In addition to these the Imperial Head, Deer's Tongue, and others of the brown or purple lettuce will be found very fine for the amateur, but the color hurts them for market.

In starting Cucumbers for growth under glass the seed should be sown broadcast on fresh, strong heat that will bring the plants up in two or three days, then keep the bed aired freely to make the plants strong and stocky, and when the second set of leaves begin to break out, transplant them into pots or old strawberry baskets, always choosing a still sunny day. Keep them well aired to prevent them getting spindling, and when the second crop of lettuce is out set them in the fruiting bed, one hill of not over three vines to each sash, give them plenty of water and as much heat as possible without burning; if the vines get scorched they never get wholly over it.

The Tomato is one of the most popular and desirable of the summer vegetables and will well repay the best of care. In growing the plants in the beds and the subsequent care in the field, the seed should be sown on good strong heat, March 20. Transplant twice, the first time two inches apart each way on fresh heat, the second time five inches apart on a very little heat; when they are well rooted and growing, air them freely in fine weather, to prevent their growing too fast, take the glass off ten days or two weeks before setting them in the field, covering them with shutters at night if there is danger of frost. When set in the field the rows should be five feet apart, and the plants four or four and a half feet apart. The soil should be a warm sandy loam, highly manured the fall before. If manured with green manure in the spring it causes too rank a growth of vines and late imperfect fruit; use phosphate or hen manure compost in the hill. A side-hill sloping to the east or south is better than a level piece.

Cabbages are a very important crop and the early crop must be started under glass by sowing the seed on old heat the last week in February or the first week in March, and transplanting them two and a half inches apart in fine rich soil without heat; there should be some manure under the soil to keep it light and warm, but not enough to make heat under them; ventilate them

freely to make them strong and stocky, and take the glass off of them for about two weeks before setting them in the field; set them in rows three and a half feet apart and from one and a half to two and a half feet apart in a row. Henderson's early summer is one of the very best varieties for all seasons unless it is for winter, and I think it would prove equally desirable for winter if it was sown late enough so they didn't get too ripe. They grow very quick, I have had them fit for market in less than three months from sowing the seed, the early ones can be followed by squashes or pickling cucumbers by planting between the rows in June, or the ground can be sown with winter spinach after the cabbages are cleared off. Cabbages are the prey of various pests that render them difficult to raise sometimes. The best remedy I have ever found for them is high manuring and thorough cultivation, so as to stimulate a quick and rapid growth; this will usually carry the crop through with little injury if attacked, and they are less liable to be troubled than if the growth is slow. With cabbages as with most crops the small number grown by the amateur suffer far more than the large fields. The black fly is the first enemy to put in its appearance. Air slaked lime sprinkled on the plants is an effectual remedy; the next enemy and by far the worst that we have to deal with is the maggot in the root. This is caused by a fly similar to the house fly which deposits its eggs close to the stalk of the plant; as soon as they hatch, the maggot bores into the stalk and down to the roots and sometimes ruins whole fields.

One remedy is to go through the field and with the hands brush the eggs away, another is by hilling them up at the proper time so as to start out new roots, but the best of all is to have large strong plants to set in a highly manured field the last week in April or the first of May, use phosphate in the hill and always cultivate and hoe the crop in the morning or on dull cloudy days and do it often.

Beets are a very important crop and are in demand the year round; but the profit to be derived from them I think has fallen off more in the last ten years than on most any other vegetable. The 1st to the 4th of July used to be very early

to get the first bunch of beets which were worth one dollar per dozen and the price declined slowly; now they must be had about the middle of June and the price rapidily declines to about 40 cts. at July 1st. For this crop plough the manure in, in the fall from 15 to 20 cords to the acre. As soon as the ground can be worked in the spring, plough twice, sow broadcast a liberal quantity of phosphate, harrow it in and smooth the field with a field leveler, and sow the seed—soon as the field is ready—in rows 16 or 18 inches apart and thin the beets to 6 inches apart in the row. By skipping every 5th row a row of spinach or early lettuce can be grown between the beds of beets, and the later pickling cucumbers may be planted or celery set out. It should be our aim to secure at least two crops from all the fields. It is easier to keep the ground free from weeds if there is a good crop growing on, than if there is nothing, the weeds are sure to start and if there is no crop to hoe the weeds are allowed to grow and ripen seed to cause future trouble and expense. Tomatoes may follow early spinach by sowing it in beds and setting the tomatoes between; string beans can be grown with sweet corn.

Early planting is one of the surest means to gain success; all the hardy vegetables, such as onions, spinach, peas, beets, potatoes, etc. should be put in the ground as soon as the ground will work fine and light. Seed sown thus early should be covered slightly, the ground has not become warm and we must depend on the heat from the sun to start the seed, if the ground is stirred often before the crop is up it will cause the ground to warm up faster and materially help the crop.

Of all the vegetables we grow none have grown in public favor and demand faster than Celery, and none are receiving more attention and care in cultivation. The seed for the early crop should be sown under glass in April and transplanted once, the seed is very slow to germinate and requires a great deal of water; if the weather should be very bright and warm the glass will need to be covered with a mat during the heat of the day to prevent the soil becoming hard and crusty. The soil in the field should be very highly manured and made fine by thorough working and the plants well watered

when set; stir the soil often to kill the weeds down and promote the growth of celery, and draw no dirt to the plants till time to bleach it. There is a great diversity of opinion in regard to the best varieties to be grown. I know I differ widely from many growers in regard to this and while I do not expect or seek to gain converts to my opinion, I unhesitatingly say that for early celery, the White Plume is the best for me to grow. I know there is much prejudice against the variety, it is said to be tough and stringy and generally undesirable, but I think it is mainly due to the way in which it is grown. This variety is known as one of the self-bleaching, and I judge by the looks of some that it is allowed to bleach itself, and under these conditions no celery can fail to be tough in texture and strong in flavor. It isn't possible to get something for nothing in growing celery any more than it is in short term endowment orders. I have grown some as good White Plume celery as any one and I have had some as lamentable failures. When I have had the best it has been because I fulfilled the requirements for success and when I have failed it has been my own fault. To have well bleached crisp celery, requires that the bleaching be done at the proper time and in the proper manner. It must be bleached while it is making good vigorous growth, if we wait till it has nearly done growing and try to bleach that old growth we shall fail to get nice celery; there are different methods of bleaching but none I believe that is as good as the soil in which it grows. In all the kinds of vegetables there are a great number of varieties, always get the best but do not think they grow alone, that you have only to get the right variety to succeed. It is very much as it was with the man who always had better hogs than his neighbors, and when asked what breed they were, replied, "the swill pail breed."

We hear much complaint about the poor market here in Worcester and it is true there are a few weeks in mid-summer that the demand is not very brisk; but it is seldom that we cannot sell all we have at the market price and that ought to satisfy all reasonable mortals. If prices are low at certain times they are high at others, and until we come a good deal nearer than at present to producing what is used here, we ought not to grumble

about the market. When we consider the immense quantities of potatoes, cabbages and other vegetables as well as fruits and dairy products, that are annually shipped here, it is evident to the most casual observer that he can sell all he can produce. I would not advise all to grow vegetables. I most thoroughly believe in special branches of farming to meet the requirements of different localities and the tastes and abilities of the different farmers. Let each decide for himself what his specialty shall be, and having decided go for that with "pesky energy!"

SCHEDULE OF PREMIUMS

OFFERED BY THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY,

FOR THE YEAR

1892.

The attention of Exhibitors is particularly called to the Rules and Regulations, General and Special.

Worcester, Mass.
CHARLES HAMILTON, PRINTER,
311 MAIN STREET,
1892.

COMMITTEE
ON
ARRANGEMENTS AND EXHIBITIONS.

James Draper, *Chairman.*

Calvin L. Hartshorn,	William H. Earle,
O. B. Hadwen,	Hermann F. A. Lange,
F. M. Marble,	Charles Greenwood,
O. B. Wyman,	H. B. Watts,
Charles E. Parker,	J. L. Peters,
Edward Hall,	George C. Rice,
Adin A. Hixon,	William H. Johnson.

President, - - Henry L. Parker.

Secretary, Edward W. Lincoln,
Nos. 5 Oak and 18 Front Sts.

JUDGES OF AWARD.

Flowers, Plants, Etc.—William H. Johnson.
Fruits, Etc.—James Draper.
Vegetables, Etc.—Charles Greenwood.

COMMITTEE ON NOMENCLATURE.

James F. Allen,	James Draper,
Hermann F. A. Lange,	Charles Greenwood,
George E. Francis,	F. M. Marble,
O. B. Hadwen,	Edward W. Lincoln.

GENERAL RULES FOR ALL EXHIBITIONS.

A. Strict conformity to the Regulations and Rules will be expected and required, as well for the benefit of Exhibitors as for the convenience of the Officers of the Society.

B. Correct and legible names must be attached to each and every Flower or Plant entered in a class of named varieties.

C. All articles offered for premium must remain within the Hall throughout the hours of Exhibition, unless special permission for their removal shall be granted by the Committee on Exhibitions, etc.

D. All *Small Fruits* must be entered in boxes or baskets (except in the case of Strawberries or Currants, which are to be shown "*flat*"); but they may be displayed subsequently in plates or dishes, at the taste of the exhibitor.

E. No person shall take more than one premium, under the same number.

F. The Judges may correct, before the close of any Exhibition, awards made by them, if satisfied that such were erroneous.

G. The cards of competitors shall be put, reversed, beneath the plates; and the Judges of Award shall be excluded from the Hall of Exhibition until the Exhibition itself is ready for judgment.

H. Competitors are expected to conform strictly to the conditions under which articles are invited. Evasion or violation of them may be reported to the TRUSTEES for future disqualification of the offender.

RULES AND REGULATIONS.

1. Exhibitions will be held on Thursday afternoons March 10, April 14, May 19, June 16, 23, July 7, 21, Aug. 4, 18, Sept. 1, 15, Oct. 13. The hours of Exhibition will be between 3 and 5 o'clock. Articles offered for premium must be in the Hall by 1.30 o'clock P. M. of the days of Exhibition, excepting the Exhibitions of June 23 and Oct. 13, when all articles must be in the Hall by 12 o'clock. Between the hours of closing the Hall to

the exhibitors and opening to the public the Hall will be in exclusive charge of the Secretary and the Janitor, who will allow no one else to be present. The Judges of Award may be admitted under the limitations of GENERAL RULE G.

2. Competition for premiums is open to all; but a discount of one-third of the amount will be made from awards to persons who are not members of the Society; and it is strictly required that all specimens offered for premium shall have been grown by the competitors, on their own premises, *within the County of Worcester*, for a period of at least two (2) months previous to the date of exhibition.

3. After the articles are arranged they will be under the exclusive charge of the Judges, and *not even the owners* will have liberty to *remove* them until the exhibition is closed; when they will be delivered as the contributors may direct.

4. No cards of a business nature will be allowed in any exhibition.

5. Where a certain number or quantity of Plants, Flowers, Fruits or Vegetables is designated in the schedule, there must be neither more nor less than that number or quantity of specimens shown; and in no case can any other varieties than those named in the schedule be substituted.

6. It will be the duty of the Judges to *exclude from competition all inferior specimens.* Also, all such *Designs* as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making Awards, will especially regard uniformity in size, symmetry of form, and beauty in color.

7. The Committee on Arrangements have power to change the time of exhibition of any article, if an earlier or later season renders such change necessary; and the Secretary is requested to give notice of one week, in some daily paper, and also at the preceding exhibition, when a change in the Schedule is proposed.

8. All articles offered for premium must be correctly named. Indefinite appellations such as "Pippin," "Sweeting," "Green-

ing," etc., will not be considered as names. Any person exhibiting the same variety of Fruit or Vegetable, under different names, or exhibiting as grown by himself, Flowers, Fruit, or Vegetables grown by another, thereby violating the objects and rules of the Society, shall be debarred from competing for the Society's premiums until reinstated.

9. No Flowers, Plants, Fruits, or Vegetables will be entitled to a premium unless they possess points of superiority; and the Judges are *strictly required* to withhold premiums if, in their opinion, the articles exhibited do not merit them; nor shall any specimen for which a premium has been once awarded, receive another during the season.

10. Competitors will be required to furnish information as to their mode of cultivation, and to present specimens, for trial and examination, if requested.

11. In all exhibitions of Cut Flowers, for competition, the use of foliage must be restricted to that of the varieties shown; and not more than three blooms, clusters, sprays, or spikes, all which shall be of one color, and of one variety, shall be allowed in the same bottle, or vase, except when otherwise specified in the schedule.

12. No Judge shall award a premium or gratuity in any case wherein he is a competitor, or has an actual or resultant interest; in any such case the judgment shall be rendered by any three of the Committee on Arrangements and Exhibitions whom the Judge shall invite.

13. No Judge shall require anything of competitors respecting their exhibits which is not distinctly specified in the schedule. No Flowers, Fruits, etc., etc., shall be put on the tables, for competition for premiums, by any person who is a judge as to the awards to be made for Fruits, Flowers, etc., etc.

14. The standard number required for an exhibit, whether of Fruits or Vegetables, will be twelve (12); unless otherwise specifically declared. The usual limit of measure, save for SMALL-FRUITS, will be a half-peck.

15. All premiums that are not claimed within three months after the close of the official year shall be forfeited to the Society.

16. The awards will be made known as soon as the cards can be filled out and placed upon the table.

17. "Downing's Fruits of America," revised edition, will guide the Judge of Fruits in his decisions upon matters at issue.

☞The judges are authorized by the Trustees to invite the assistance of competent and discreet persons in the discharge of their duties.

FLOWERS, PLANTS, FRUITS, VEGETABLES.

A. D. 1892.

☞ The Committee on Arrangements and Exhibitions would direct the earnest attention of the Judges to *Rule 6!*

6. *It will be the duty of the Judges to exclude from competition all inferior specimens. Also, all such designs as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making awards, will especially regard uniformity in size, symmetry of form, and beauty in color.*

FLORAL. Special Rule.—In all cases where dimensions are prescribed for exhibits, the measure shall be understood to be that of the flowers solely; never admitting the basket, foliage, or any garniture of green.

Thursday, March 10.

☞ *The* Committee on Arrangements and Exhibitions *will meet at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

HYACINTH,—in bloom.—				
No. 1.	Six plants, three premiums	$3 00	2 00	1 00
No. 2.	One plant, two premiums		1 00	50
PRIMULA SINENSIS,—in bloom.—				
No. 3.	Four plants, three premiums	3 00	2 00	1 00
No. 4.	One plant, two premiums		1 00	50
PRIMULA,—any other variety,—in bloom.—				
No. 5.	Four plants, three premiums	3 00	2 00	1 00
CINERARIA,—in bloom.—				
No. 6.	Four plants, distinct in color, three premiums	3 00	2 00	1 00
CYCLAMEN,—in bloom.—				
No. 7.	Four plants, three premiums	3 00	2 00	1 00
No. 8.	One plant, three premiums	1 50	1 00	50

ARUM (RICHARDIA),—IN BLOOM.—

No. 9.	Best collection; grown in a pot, or tub, not exceeding 16 in. in diameter, three premiums		3 00	2 00	1 00
No. 10.	One bloom, with foliage (the largest), two premiums			1 00	50

AZALEA INDICA,—IN BLOOM.—

No. 11.	Three plants, four premiums	$5 00	3 00	2 00	1 00
No. 12.	One plant, two premiums			3 00	2 00

CUT FLOWERS.—

No. 13.	Twenty blooms (clusters, sprays or spikes in vases), three premiums		3 00	2 00	1 00

BOUQUET—(HAND).—

No. 14.	Not more than 9 in. in diameter, three premiums		3 00	2 00	1 00

APPLE.—

No. 15. Any variety, named, gratuity.

PEAR.—

No. 16. Any variety, named, gratuity.

VEGETABLE.—

CABBAGE,

No. 17.	Brunswick, 3 specimens, three premiums	$1 50		1 00	50
No. 18.	Red Dutch, 3 specimens, three premiums	1 50		1 00	50
No. 19.	Savoy, 3 specimens, three premiums	1 50		1 00	50

CELERY,

No. 20.	Six specimens, three premiums	1 50		1 00	50

SQUASH,

No. 21.	Hubbard, 3 specimens, three premiums	1 50		1 00	50
No. 22.	Marblehead, 3 specimens, three premiums	1 50		1 00	50

TURNIP,

No. 23.	Swede, Yellow, 6 specimens, three premiums	1 50		1 00	50
No. 24.	Swede, White, 6 specimens, three premiums	1 50		1 00	50
No. 25.	White Egg, 12 specimens, three premiums	1 50		1 00	50

BEET,

No. 26.	Turnip, three premiums	1 50		1 00	50

*

CARROT,

No. 27. Intermediate, three premiums..... 1 50 1 00 50

LETTUCE,

No. 28. Six heads, three premiums..... 2 00 1 50 1 00

Thursday, April 14.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock, P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS—BASKET.—

No. 29. For the best round basket, on stand, not to exceed 15 inches in diameter, three premiums.....$3 00 2 00 1 00

ZONALE GERANIUM,—IN BLOOM.—

No. 30. Four plants, distinct in color, three premiums..... 3 00 2 00 1 00

CUT FLOWERS.—

No. 31. Twenty vases, not to exceed 5 blooms, clusters, sprays or spikes in each, three premiums..... 3 00 2 00 1 00

HYACINTH,—IN BLOOM.—

No. 32. Twelve plants, not less than 6 varieties, three premiums..... 3 00 2 00 1 00

NARCISSUS,—DISPLAY.—

No. 33. Four premiums..... 4 00 3 00 2 00 1 00

TULIP.—

No. 34. Six pots or pans, not to exceed 12 bulbs in each, not less than three varieties, four premiums..... 4 00 3 00 2 00 1 00

APPLE.—

No. 35. Any variety, named, gratuity.

PEAR.—

No. 36. Any variety, named, gratuity.

VEGETABLE.—

HORSE RADISH,

No. 37. Three premiums.....$1 50 1 00 50

PARSNEP,

No. 38.	(Student), three premiums	1 50	1 00	50
No. 39.	(Hollow Crown), three premiums	1 50	1 00	50

RADISH,

No. 40.	Two bunches (6 in each bunch), three premiums	1 50	1 00	50

SALSIFY,

No. 41.	Three premiums	1 50	1 00	50

LETTUCE,

No. 42.	Six heads, three premiums	2 00	1 50	1 00

RHUBARB,

No. 43.	Same variety, three premiums	1 50	1 00	50

DANDELION (cultivated).

No. 44.	One-half peck, three premiums	1 50	1 00	50

SPINACH,

No. 45.	One-half peck, three premiums	1 50	1 00	50

Thursday, May 19.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

PANSY,—NO DUPLICATES —

No. 46.	One stand, one stem in a vial, three premiums	$3 00	2 00	1 00
No. 47.	Six plants in bloom, distinct in color, exhibited in pots, three premiums	3 00	2 00	1 00

BOUQUET,—HAND.—

No. 48.	Not to exceed 9 inches in diameter, three premiums	3 00	2 00	1 00

BULBS AND TUBERS—(HARDY),—OPEN CULTURE.—

No. 49.	Display, in vases (no duplicates), three premiums	3 00	2 00	1 00

HYACINTH,—OPEN CULTURE.—

No. 50.	Display, in vases (no duplicates), three premiums	3 00	2 00	1 00

PELARGONIUM—(FANCY AND SHOW)—IN BLOOM.—

No. 51.	Four plants of distinct varieties, three premiums	3 00	2 00	1 00

TULIP,—OPEN CULTURE.—

No. 52.	Display, in vases (no duplicates), three premiums	3 00	2 00	1 00

CUT FLOWERS.—

No. 53.	Stand, three premiums	3 00	2 00	1 00
No. 54.	Basket, oval, with handle, on stand, not to exceed 15 inches, three premiums	3 00	2 00	1 00

AZALEA—(MOLLIS).—

No. 55.	For the best display in vases, three premiums	3 00	2 00	1 00

VEGETABLE.—

	RADISH,			
No. 56.	Three premiums	$1 50	1 00	50
	ONION (bunched),			
No. 57.	Two bunches, six in each bunch, three premiums	1 50	1 00	50
	RHUBARB,			
No. 58.	Linnæus, three premiums	1 50	1 00	50
No. 59.	Victoria, three premiums	1 50	1 00	50
	ASPARAGUS,			
No. 60.	Two bunches, three premiums	1 50	1 00	50
	DANDELION,			
No. 61.	Cultivated, half-peck, three premiums	1 50	1 00	50
	SPINACH,			
No. 62.	Half-peck, three premiums	1 50	1 00	50

Thursday, June 16.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at* $3\frac{1}{2}$ *o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS,—DISTINCT.

No. 63.	ONE STAND—(the varieties of any species must not exceed three), three premiums	$3 00	2 00	1 00
No. 64.	From hardy plants and shrubs, display not to exceed 25 vases, three premiums	3 00	2 00	1 00
No. 65.	ONE VASE,—the specimens not to be tied or wired, three premiums	2 00	1 00	50

BASKET.—Oval, flat, not to exceed 18 inches.

No. 66.	AMATEUR,—three premiums	3 00	2 00	1 00
No. 67.	FLORIST,—three premiums	3 00	2 00	1 00

BOUQUET—PARLOR.—

No. 68.	AMATEUR,—three premiums	3 00	2 00	1 00
No. 69.	FLORIST,—three premiums	3 00	2 00	1 00

Digitalis. (FOXGLOVE.)

No. 70.	Display, three premiums	2 00	1 00	50

Campanula Media. (CANTERBURY BELL.)

No. 71.	Display, three premiums	2 00	1 00	50

Dianthus Barbatus. (SWEET WILLIAM.)

No. 72.	Stand, three premiums	3 00	2 00	1 00

Pœonia.

No. 73.	Twenty vases, three premiums	3 00	2 00	1 00

BEGONIA,—IN BLOOM.—

No. 74.	ONE PLANT,—three premiums	3 00	2 00	1 00

IRIS.—

No. 75.	Ten vases, three premiums	3 00	2 00	1 00

CLEMATIS.—

No. 76.	Display, in vases, two premiums		2 00	1 00

FUCHSIA,—DISTINCT VARIETIES.—

No. 77.	Four plants in bloom, three premiums	3 00	2 00	1 00

RHODODENDRON.—

No. 78.	Display, in vases, three premiums	3 00	2 00	1 00

AZALEA,—GHENT.—

No. 79.	Display, in vases, three premiums	3 00	2 00	1 00

HYDRANGEA,—ONE PLANT, IN BLOOM.—

No. 80.	Hortensis, three premiums	2 00	1 00	50
No. 81.	Otaksa, three premiums	2 00	1 00	50
No. 82.	Thomas Hogg, three premiums	2 00	1 00	50

STRAWBERRY.—

No. 83.	Bidwell, 24 berries, flat, three premiums	$1 50	1 00	50
No. 84.	Bubach, 24 berries, flat, three premiums	1 50	1 00	50
No. 85.	Charles Downing, 24 berries, flat, three premiums	2 00	1 50	1 00
No. 86.	Crescent, 24 berries, flat, three premiums	1 50	1 00	50
No. 87.	Sharpless, 24 berries, flat, three premiums	2 00	1 50	1 00
No. 88.	Other varieties, not scheduled, 24 berries, flat, gratuity.			

VEGETABLE.—

ASPARAGUS,

No. 89. Two bunches, three premiums.....$1 50 1 00 50

CUCUMBER,

No. 90. Three specimens, three premiums.. ..... 1 50 1 00 50

SPINACH,

No. 91. Half-peck, three premiums..... 1 50 1 00 50

BEET,

No. 92. Early, twelve specimens, three premiums. 2 00 1 50 1 00

PEA, any variety, named,

No. 93. One half-peck, three premiums..... 2 00 1 50 1 00

LETTUCE,

No. 94. Six heads, three premiums..... 1 50 1 00 50

Thursday, June 23.

☞All articles must be in the Hall by 12 o'clock M. This exhibition will be open to the public from 3 P. M. until 9 P. M.

ADMISSION 10 CENTS.

ROSE.—

[TO BE SHOWN IN THE VASES OF THE SOCIETY.]

No. 95. For the best twelve blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums.....$4 00 3 00 2 00 1 00

No. 96. For the best six blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, three premiums 3 00 2 00 1 00

No. 97. For the best stand of Roses, three premiums 3 00 2 00 1 00

No. 98. Moss Roses. Best display, three premiums 3 00 2 00 1 00

No. 99. For the best basket or dish of Roses, three premiums 2 00 1 00 50

STRAWBERRY.—

No. 100. Belmont, 24 berries, flat, three premiums. 1 50 1 00 50

No. 101. Jersey Queen, 24 berries, flat, three premiums 1 50 1 00 50

No. 102. Jewell, 24 berries, flat, three premiums... 1 50 1 00 50

No. 103. Jucunda, 24 berries, flat, three premiums. 1 50 1 00 50
No. 104. Manchester, 24 berries, flat, three premiums 1 50 1 00 50
No. 105. Miner, 24 berries, flat, three premiums... 1 50 1 00 50
No. 106. Triomphe de Gand, 24 berries, flat, three premiums 1 50 1 00 50
No. 107. Other varieties, not scheduled, 24 berries, flat, gratuity.

CHERRY.—
No. 108. Any variety, named, one quart, three premiums 2 00 1 50 1 00

VEGETABLE.—
BEAN—(Snap),
No. 109. Green Pod, one-half peck, three premiums 2 00 1 50 1 00
PEA,
No. 110. McLean's Advancer, one-half peck, three premiums..... 2 00 1 50 1 00
BEET,
No. 111. Turnip-rooted, 12 specimens, three premiums 1 50 1 00 50

Thursday, July 7.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at* 3½ *o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

ZONALE GERANIUM,—IN VASES.—
No. 112. For the best display (no duplicates), one truss in a vase, three premiums ..$3 00 2 00 1 00
No. 113. LILIUM CANDIDUM. Twelve spikes, four premiums.....$4 00 3 00 2 00 1 00

GLOXINIA,—POTS.—
No. 114. Six varieties, in bloom, four premiums 4 00 3 00 2 00 1 00

CUT FLOWERS,—DISTINCT VARIETIES.—
No. 115. Twenty-four vases, three premiums.... 3 00 2 00 1 00

IRIS KÆMPFERI.—

No. 116.	Twenty vases, one spike in each, three premiums	3 00	2 00	1 00

RASPBERRY.—

No. 117.	Cuthbert, one quart, three premiums	1 50	1 00	50
No. 118.	Brandywine, one quart, three premiums	1 50	1 00	50
No. 119.	Hansell, one quart, three premiums	1 50	1 00	50
No. 120.	Hudson River Antwerp, one quart, three premiums	1 50	1 00	50
No. 121.	Marlboro', one quart, three premiums	1 50	1 00	50
No. 122.	Northumberland, one quart, three premiums	1 50	1 00	50
No. 123.	Turner, one quart, three premiums	1 50	1 00	50
No. 124.	Other varieties, not scheduled, gratuity.			

RASPBERRY,—Blackcap.—

No. 125.	Davison, one quart, two premiums		1 00	50
No. 126.	Doolittle, one quart, two premiums		1 00	50
No. 127.	Gregg, one quart, two premiums		1 00	50
No. 128.	Mammoth Cluster, one quart, two premiums		1 00	50
No. 129.	Souhegan, one quart, two premiums		1 00	50
No. 130.	Other varieties, not scheduled, gratuity.			

CHERRY.—

No. 131.	Any variety, named, one quart, three premiums	$2 00	1 50	1 00

STRAWBERRY.—

No. 132. Any variety, 24 berries, flat, gratuity.

VEGETABLE.—

Pea,

No. 133.	Stratagem, three premiums	$2 00	1 50	1 00
No. 134.	Yorkshire Hero, three premiums	2 00	1 50	1 00
No. 135.	Champion of England, three premiums	2 00	1 50	1 00
No. 136.	Other varieties, not scheduled, gratuity.			

Cabbage,

No. 137. Three specimens, gratuity.

Potato,

No. 138.	Any named variety, 12 specimens, three premiums	2 00	1 50	1 00

Bean,

No. 139.	Wax—(snap),—three premiums	2 00	1 50	1 00

Thursday, July 21.

CUT FLOWERS,—SEEDLINGS OF 1892.

No. 140.	Stand, three premiums	$3 00	2 00	1 00
	BASKET,—Round, flat, not to exceed 18 in. in diameter.			
No. 141.	AMATEUR,—three premiums	3 00	2 00	1 00
No. 142.	FLORIST,—three premiums	3 00	2 00	1 00
	BOUQUET,—PARLOR,—Not to exceed 15 in. from base to tip.			
No. 143.	AMATEUR,—three premiums	3 00	2 00	1 00
No. 144.	FLORIST,—three premiums	3 00	2 00	1 00
	CUT FLOWERS.—			
No. 145.	Stand, three premiums	3 00	2 00	1 00
	SWEET PEA.—			
No. 146.	Stand, not exceeding 12 stems in a vial, three premiums	3 00	2 00	1 00
	PETUNIA,—One spray in each vial.			
No. 147.	Stand, three premiums	3 00	2 00	1 00
	PHLOX DRUMMONDI.—			
No. 148.	Stand, three premiums	3 00	2 00	1 00
	HOLLYHOCK.—			
No. 149.	Twenty blooms in vases, three premiums	3 00	2 00	1 00
	CURRANT.—			
No. 150.	Fay, 24 bunches, three premiums	1 50	1 00	50
No. 151.	Red Dutch, 24 bunches, three premiums	2 00	1 50	1 00
No. 152.	White Dutch, 24 bunches, three premiums	1 50	1 00	50
No. 153.	Versaillaise, 24 bunches, three premiums	2 00	1 50	1 00
No. 154.	White Grape, 24 bunches, three premiums	1 50	1 00	50
No. 155.	Other varieties, not scheduled, gratuity.			
	RASPBERRY.—			
No. 156.	Brincklé's Orange, one quart, three premiums	1 50	1 00	50
No. 157.	Hornét, one quart, three premiums	1 50	1 00	50
No. 158.	Other varieties, not scheduled, gratuity.			
	BLACKBERRY.—			
No. 159.	Agawam, one quart, two premiums		1 00	50
No. 160.	Early Harvest, one quart, two premiums		1 00	50

GOOSEBERRY.—

No. 161. One quart, of any named variety, gratuity.

PEAR.—

No. 162. D'Eté, three premiums..... $1 50 1 00 50

VEGETABLE.—

CABBAGE.

No. 163. Brunswick, 3 specimens, three premiums. 1 50 1 00 50

No. 164. Henderson, three premiums..... 1 50 1 00 50

SQUASH,

No. 165. Three Summer Crookneck, two premiums..... 1 00 50

No. 166. Three Scallop, two premiums..... 1 00 50

TOMATO,

No. 167. Any named variety, three premiums... 2 00 1 50 1 00

BEAN—(shell),

No. 168. Dwarf Horticultural, half-peck, three premiums 1 50 1 00 50

No. 169. Any other (named) variety, three premiums 1 50 1 00 50

CORN,

No. 170. (Sweet), three premiums..... .. 2 00 1 50 1 00

POTATO,—12 specimens.

No. 171. Hebron, three premiums..... 1 50 1 00 50

No. 172. Polaris, three premiums..... 1 50 1 00 50

No. 173. Potentate, three premiums..... 1 50 1 00 50

No. 174. Rose, three premiums..... .. 1 50 1 00 50

Thursday, August 4.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at* 3½ *o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 175. Twenty blooms, clusters, sprays or spikes, in vases, three premiums $3 00 2 00 1 00

BASKET,—NO LIMIT OR RESTRICTION.—

No. 176. AMATEUR,—three premiums..... 3 00 2 00 1 00

No. 177. FLORIST,—three premiums..... 3 00 2 00 1 00

ANTIRRHINUM,—SNAP DRAGON.—

No. 178. Stand, three premiums..... 3 00 2 00 1 00

GERMAN STOCKS.—

No. 179.	Stand, three premiums	3 00	2 00	1 00

PINK—(ALL KINDS).—

No. 180.	Stand, three premiums	3 00	2 00	1 00

APPLE.—

No. 181.	Astrachan, three premiums	2 00	1 50	1 00
No. 182.	Sweet Bough, three premiums	1 50	1 00	50
No. 183.	Tetofsky, three premiums	1 50	1 00	50
No. 184.	Any variety, not scheduled, gratuity.			

PEAR.—

No. 185.	Giffard, three premiums	2 00	1 50	1 00
No. 186.	Any variety, not scheduled, gratuity.			

PEACH.—

No. 187. Any variety, gratuity.

BLACKBERRY.—

No. 188.	Kittatinny, one quart, two premiums		1 00	50
No. 189.	Snyder, one quart, two premiums		1 00	50
No. 190.	Wachusett, one quart, two premiums		1 00	50
No. 191.	Other varieties, not scheduled, gratuity.			

VEGETABLE.—

CORN,

No. 192.	Crosby, three premiums	$2 00	1 50	1 00

CUCUMBER,

No. 193.	Three specimens, two premiums		1 00	50

TOMATO,

No. 194.	Acme, three premiums	1 50	1 00	50

BEAN (shell),

No. 195.	Concord, half peck, in pods, three premiums	1 50	1 00	50

TOMATO,

No. 196.	Livingston's Perfection, three premiums	1 50	1 00	50

Thursday, August 18.

CUT FLOWERS.—

No. 197.	Stand, three premiums	$3 00	2 00	1 00

GLADIOLUS—(DISTINCT VARIETIES),—NAMED.

No. 198.	Twenty vases, one spike in each, four premiums	$4 00	3 00	2 00	1 00

GLADIOLUS,—HARDY,—LEMOINE'S HYBRIDS.

No. 199.	Twenty vases, one spike in each, three premiums	3 00	2 00	1 00

PHLOX—PERENNIAL.—

No. 200.	Twenty vases, three premiums	3 00	2 00	1 00

SALPIGLOSSIS.—

No. 201.	Stand, three premiums	3 00	2 00	1 00

ASTER.—

No. 202.	Rose, 20 vials, 1 bloom in each, three premiums	2 00	1 00	50
No. 203.	Hedgehog, 20 vials, 1 bloom in each, three premiums	2 00	1 00	50
No. 204.	Cocardeau (Crown), 20 vials, 1 bloom in each, three premiums	2 00	1 00	50
No. 205.	Victoria, 20 vials, 1 bloom in each, three premiums	2 00	1 00	50
No. 206.	POMPON, stand, one spray of not more than 6 blooms in each vial, three premiums	3 00	2 00	1 00
No. 207.	TRUFFAUT,—PÆONY-FLOWERED, stand, 3 blooms in each vial, three premiums	3 00	2 00	1 00

APPLE.—

No. 208.	Somerset, three premiums	1 50	1 00	50
No. 209.	Williams, three premiums	2 00	1 50	1 00
No. 210.	Oldenburg, three premiums	2 00	1 50	1 00
No. 211.	Any variety, not scheduled, gratuity.			

PEAR.—

No. 212.	Rostiezer, three premiums	1 50	1 00	50
No. 213.	Tyson, three premiums	1 50	1 00	50
No. 214.	Clapp, four premiums	3 00	2 00	1 50	1 00

APRICOT.—

No. 215.	Any variety, two premiums		1 00	50

PEACH.—

No. 216.	Alexander, three premiums	1 50	1 00	50
No. 217.	Beatrice, three premiums	1 50	1 00	50
No. 218.	Cole's Early Red, two premiums		1 00	50
No. 219.	Rivers, three premiums	1 50	1 00	50
No. 220.	Hale, three premiums	1 50	1 00	50

VEGETABLE.—

SQUASH,

No. 221.	Marrow, 3 specimens, three premiums...	1 50	1 00	50
No. 222.	Turban, 3 specimens, three premiums...	2 00	1 50	1 00

TOMATO,

No. 223.	Beauty, three premiums.....	1 50	1 00	50

CORN,

No. 224.	(Sweet), 12 ears, of not less than 12 rows, three premiums.....	1 50	1 00	50

BEAN—(HALF-PECK IN POD.)—

No. 225.	Horticultural (pole), three premiums.....	1 50	1 00	50
No. 226.	Goddard, three premiums.....	1 50	1 00	50

Thursday, Sept. 1.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS.—

No. 227.	Stand, three premiums....	$3 00	2 00	1 00

BOUQUET—(PARLOR).—

No. 228.	AMATEUR,—three premiums.....	3 00	2 00	1 00
No. 229.	FLORIST,—three premiums	3 00	2 00	1 00

DAHLIA.—

LARGE-FLOWERED,

No. 230.	Twenty vases, one flower in each, three premiums	3 00	2 00	1 00

POMPON,

No. 231.	Twenty vases, one spray in each, three premiums.....	3 00	2 00	1 00

NASTURTIUM AND TROPÆOLUM.—

No. 232.	Stand, not more than 12 blooms in each bottle, three premiums....	3 00	2 00	1 00

CLEMATIS.—

No. 233.	Display, in vases, two premiums.....		2 00	1 00

VERBENA.—

No. 234.	Stand, three premiums.....	3 00	2 00	1 00

SCABIOSA.—

No. 235.	Stand, not exceeding six flowers in a vial, three premiums	3 00	2 00	1 00

ZINNIA.—

No. 236.	Stand, at least twelve varieties, one flower in a vial, three premiums	3 00	2 00	1 00

LILIUM SPECIOSUM.—

No. 237.	Display, in vases, three premiums	3 00	2 00	1 00

MARIGOLD.—

No. 238.	Stand, three premiums	3 00	2 00	1 00

BEGONIA—(Tuberous Rooted)—in bloom.—

No. 239.	Six plants, three premiums	3 00	2 00	1 00

APPLE.—

No. 240.	Golden Sweet, three premiums	1 50	1 00	50
No. 241.	Worcester Spy, three premiums	1 50	1 00	50
No. 242.	Other varieties, not scheduled, gratuity.			

APPLE—(Crab).—

No. 243.	Transcendent, 24 specimens, three premiums	1 50	1 00	50

PEAR.—

No. 244.	Ansault, three premiums	1 50	1 00	50
No. 245.	Earle's Bergamot, three premiums	1 50	1 00	50
No. 246.	St. Ghislain, three premiums	2 00	1 50	1 00
No. 247.	Assomption, three premiums	1 50	1 00	50
No. 248.	Petite Marguerite, three premiums	1 50	1 00	50

PEACH.—

No. 249.	Crawford (Early), two premiums		$1 00	50
No. 250.	Oldmixon, two premiums		1 00	50
No. 251.	Cooledge, two premiums		1 00	50
No 252.	George IV., two premiums		1 00	50
No. 253.	Foster, two premiums		1 00	50
No. 254.	Richmond, two premiums		1 00	50

NECTARINE.—

No. 255.	Any variety, two premiums		1 00	50

PLUM.—

No. 256.	Imperial Gage, three premiums	$1 50	1 00	50
No. 257.	Gen. Hand, three premiums	1 50	1 00	50
No. 258.	Victoria, three premiums	1 50	1 00	50

No. 259.	Bradshaw, three premiums	1 50	1 00	50
No. 260.	McLaughlin, three premiums	1 50	1 00	50
No. 261.	Washington, three premiums	1 50	1 00	50

VEGETABLE.—

LIMA BEANS,

No. 262.	Large, half-peck, three premiums	$2 00	1 50	1 00

CAULIFLOWER,

No. 263.	Three specimens, three premiums	2 00	1 50	1 00

TOMATO,

No. 264.	Any variety, not scheduled, three premiums	1 50	1 00	50

CUCUMBER,

No. 265.	Half-peck (for pickles), three premiums	$1 50	1 00	50

CORN,

No. 266.	(Sweet), 12 ears, of not less than 12 rows, three premiums	1 50	1 00	50

PEPPER—12 specimens.

No. 267.	Squash, two premiums		$1 00	50
No. 268.	Large Bell, two premiums		1 00	50
No. 269.	Mammoth, two premiums		1 00	50

Thursday, September 15.

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 270.	Twenty vases, one bloom, cluster, spray or spike in each, three premiums	$3 00	2 00	1 00

CUT FLOWERS—(BASKET).—

Not to exceed fifteen inches, oval, with handle, on stand.

No. 271.	AMATEUR,—three premiums	3 00	2 00	1 00
No. 272.	FLORIST,—three premiums	3 00	2 00	1 00

CUT FLOWERS—STAND.

No. 273.	Three premiums	3 00	2 00	1 00

ASTER.—

No. 274.	Forty vases, three premiums	3 00	2 00	1 00

GERANIUM,—Display in vases, no duplicates, one truss in a vase.

No. 275.	Three premiums	3 00	2 00	1 00

PANSY,—WITH FOLIAGE.—

No. 276.	Stand, one stem in each vial, three premiums	3 00	2 00	1 00

DAHLIA,—SINGLE.—

No. 277.	Twenty vases, one spray in each, three premiums	1 50	1 00	50

GLADIOLUS,—Display in vases, no duplicates.

No. 278.	Three premiums	3 00	2 00	1 00

APPLE.—

No. 279.	Garden Royal, three premiums		$1 50	1 00	50
No. 280.	Holden, three premiums		1 50	1 00	50
No. 281.	Gravenstein, four premiums	3 00	2 00	1 50	1 00
No. 282.	Maiden's Blush, three premiums		1 50	1 00	50
No. 283.	Porter, three premiums		1 50	1 00	50

APPLE,—CRAB.

No. 284.	Hyslop, twenty-four, two premiums			$1 00	50

PEAR.—

No. 285.	Durandeau, three premiums		$1 50	1 00	50
No. 286.	Paradis d'Automne, three premiums		2 00	1 50	1 00
No. 287.	Bartlett, four premiums	3 00	2 00	1 50	1 00
No. 288.	Lucrative, three premiums		1 50	1 00	50
No. 289.	Pratt, three premiums		1 50	1 00	50
No. 290.	Other varieties, not scheduled, gratuity.				

PEACH.—

No. 291.	Oldmixon, two premiums			$1 00	50
No. 292.	Crawford (late), two premiums			1 00	50
No. 293.	Stump the World, two premiums			1 00	50
No. 294.	Other varieties, not scheduled, gratuity.				
No. 295.	New Seedling, originated in Worcester County, three premiums		$1 50	1 00	50

PLUM.—

No. 296.	Fellenberg, three premiums		$1 50	1 00	50
No. 297.	Jefferson, three premiums		1 50	1 00	50
No. 298.	Lombard, three premiums		1 50	1 00	50
No. 299.	Monroe, three premiums		1 50	1 00	50
No. 300.	Quackenboss, three premiums		1 50	1 00	50
No. 301.	Coe's Golden Drop, three premiums		1 50	1 00	50
No. 302.	Reine Claude de Bavay, three premiums		1 50	1 00	50

GRAPE.—

No. 303.	Brighton, three clusters, three premiums	$1 50	1 00	50
No. 304.	Lady, three clusters, three premiums...	1 50	1 00	50
No. 305.	Lindley, three premiums.....	1 50	1 00	50
No. 306.	Massasoit, three clusters, three premiums	1 50	1 00	50
No. 307.	Worden, three clusters, three premiums	1 50	1 00	50
No. 308.	Moore, three clusters, three premiums.	1 50	1 00	50
No. 309.	Grown under glass, three clusters, three premiums.....	3 00	2 00	1 00

MELON.—

No. 310.	Yellow Flesh, three specimens, two premiums..	$1 00		50
No. 311.	Green Flesh, three specimens, two premiums...	1 00		50
	WATER,			
No. 312.	Two specimens, two premiums.....	1 00		50

VEGETABLE.—

	CABBAGE,			
No. 313.	Brunswick, three specimens, three premiums	$1 50	1 00	50
No. 314.	Red, three specimens, three premiums.	1 50	1 00	50
No. 315.	Savoy, three specimens, three premiums	1 50	1 00	50
	CAULIFLOWER,			
No. 316.	Three specimens, three premiums....	2 00	1 50	1 00
	CARROT,			
No. 317.	Any variety, three premiums.....	1 50	1 00	50
	EGG PLANT,			
No. 318.	Three specimens, three premiums.....	2 00	1 00	50

Thursday, October 13.

All articles must be in the Hall by 12 o'clock M.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

This exhibition will be open to the public from 3 P. M. until 9 P. M.

ADMISSION 10 CENTS.

CUT FLOWERS.—

No. 319.	Stand, three premiums.....	$3 00	2 00	1 00
No. 320.	Hand Bouquet, not to exceed 9 inches in diameter, three premiums.....	3 00	2 00	1 00

(BASKET).—No restrictions.

No. 321.	Three premiums	3 00	2 00	1 00

(BASKET).—

Not to exceed 15 inches in diameter, flat, oval.

No. 322.	AMATEUR,—three premiums	3 00	2 00	1 00
No. 323.	FLORIST,—three premiums	3 00	2 00	1 00

CUT FLOWERS.—

No. 324. In any form, gratuity.

FERN.—

No. 325.	Best plant, three premiums	2 00	1 00	50

PALM.—

No. 326.	Best plant, three premiums	2 00	1 00	50

POT PLANTS,—IN BLOOM.—

No. 327. Gratuity.

DECORATIVE AND ORNAMENTAL PLANTS.—

No. 328. Gratuity.

APPLE.—

No. 329.	American Beauty, three premiums	$1 50	1 00	50
No. 330.	Lyscom, three premiums	1 50	1 00	50
No. 331.	McLellan, three premiums	1 50	1 00	50
No. 332.	Mother, three premiums	1 50	1 00	50
No. 333.	Twenty Ounce, three premiums	1 50	1 00	50
No. 334.	Fameuse, three premiums	1 50	1 00	50
No. 335.	Coggswell, three premiums	1 50	1 00	50
No. 336.	Hubbardston, three premiums	2 00	1 50	1 00
No. 337.	Washington Strawberry, two premiums.		1 00	50
No. 338.	Belleflower, three premiums	1 50	1 00	50
No. 339.	Leicester Sweet, three premiums	1 50	1 00	50
No. 340.	Sutton Beauty, three premiums	1 50	1 00	50
No. 341.	Tompkins King, three premiums	2 00	1 50	1 00
No. 342.	Wealthy, three premiums	1 50	1 00	50
No. 343.	Pound Sweet, three premiums	1 50	1 00	50
No. 344.	Peck, three premiums	1 50	1 00	50
No. 345.	R. I. Greening, four premiums	3 00	2 00	1 50	1 00
No. 346.	Ladies' Sweet, two premiums		1 00	50
No. 347.	Baldwin, five premiums	4 00	3 00	2 00	1 50	1 00
No. 348.	Canada Red (Old Nonesuch), three premiums	1 50	1 00	50
No. 349.	McIntosh, two premiums		1 00	50

No. 350.	Northern Spy, four premiums...	3 00	2 00	1 50	1 00
No. 351.	Roxbury Russet, three premiums		2 00	1 50	1 00
No. 352.	Golden Russet of Mass., three premiums.		1 50	1 00	50
No. 353.	Golden Russet, sweet, two premiums..			1 00	50
No. 354.	Golden Russet, three premiums.....		1 50	1 00	50
No. 355.	Red Russet, three premiums.....		1 50	1 00	50
No. 356.	Palmer, three premiums.....		1 50	1 00	50
No. 357.	Lemon Greening, two premiums.....			1 00	50
No. 358.	Collection, not to exceed ten varieties, not scheduled, four premiums.....	5 00	3 00	2 00	1 00
No. 359.	Other varieties (named), not scheduled, gratuity.				

PEAR.—

No. 360.	Buffum, two premiums.....			1 00	50
No. 361.	Hardy, three premiums.....		1 50	1 00	50
No. 362.	Louise Bonne de Jersey, four premiums	3 00	2 00	1 50	1 00
No. 363.	Seckel, four premiums.....	3 00	2 00	1 50	1 00
No. 364.	St. Michel Archange, two premiums...			1 00	50
No. 365.	Superfin, three premiums.....		1 50	1 00	50
No. 366.	Urbaniste, three premiums..... ..		1 50	1 00	50
No. 367.	Washington, three premiums		1 50	1 00	50
No. 368.	Bosc, four premiums.....	3 00	2 00	1 50	1 00
No. 369.	Dr. Reeder, three premiums.....		1 50	1 00	50
No. 370.	Sheldon, four premiums..	3 00	2 00	1 50	1 00
No. 371.	Dix, three premiums.....		1 50	1 00	50
No. 372.	Frederick Clapp, two premiums.....			1 00	50
No. 373.	Marie Louise, three premiums.....		1 50	1 00	50
No. 374.	Onondaga, three premiums..... ...		1 50	1 00	50
No. 375.	Anjou, four premiums.....	3 00	2 00	1 50	1 00
No. 376.	Diel, three premiums.....		1 50	1 00	50
No. 377.	Comice, four premiums	3 00	2 00	1 50	1 00
No. 378.	Clairgeau, three premiums...		1 50	1 00	50
No. 379.	Langelier, three premiums		1 50	1 00	50
No. 380.	Dana's Hovey, three premiums.....		1 50	1 00	50
No. 381.	Angoulême, four premiums....	2 00	1 50	1 00	50
No. 382.	Josephine de Malines, three premiums.		1 50	1 00	50
No. 383.	Lawrence, four premiums.....	3 00	2 00	1 50	1 00

No. 384.	Winter Nelis, four premiums	3 00	2 00	1 50	1 00
No. 385.	Mount Vernon, two premiums			1 00	50
No. 386.	Other varieties, not scheduled, gratuity.				

QUINCE.—

No. 387.	Champion, three premiums		1 50	1 00	50
No. 388.	Orange, four premiums	3 00	2 00	1 50	1 00

PEACH.—

No. 389. Any variety, gratuity.

GRAPE.—

No. 390.	Concord, three clusters, three premiums		2 00	1 50	1 00
No. 391.	Delaware, three premiums		2 00	1 50	1 00
No. 392.	Iona, three premiums		1 50	1 00	50
No. 393.	Niagara, two premiums			1 00	50
No. 394.	Pocklington, two premiums			1 00	50
No. 395.	Salem, three premiums		1 50	1 00	50
No. 396.	Wilder, three premiums		1 50	1 00	50
No. 397.	Diana, three clusters, three premiums		2 00	1 50	1 00
No. 398.	Any variety, not scheduled, gratuity.				

VEGETABLE.—

SQUASH,

No. 399.	Bay State, three specimens, three premiums		1 50	1 00	50
No. 400.	Butman, three specimens, three premiums		1 50	1 00	50
No. 401.	Hubbard, three premiums		1 50	1 00	50
No. 402.	Marblehead, three premiums		1 50	1 00	50
No. 403.	Essex-Hybrid, three premiums		1 50	1 00	50
No. 404.	Any variety, not scheduled, three premiums		1 50	1 00	50

ENDIVE,

No. 405.	Six heads, three premiums		1 50	1 00	50

VEGETABLE.—

CELERIAC,

No. 406.	Six specimens, three premiums		$1 50	1 00	50

CELERY,

No. 407.	Twelve specimens, four premiums	$4 00	3 00	2 00	1 00

TURNIP,				
No. 408. White Egg, three premiums.....	1 50	1 00	50	
No. 409. Purple Top, strap leaf, three premiums.	1 50	1 00	50	
KOHL RABI,				
No. 410. Six specimens, three premiums.....	1 50	1 00	50	
ONION,				
No. 411. Red Globe—Half peck, three premiums	1 50	1 00	50	
No. 412. Yellow Danvers—Half peck, three premiums	1 50	1 00	50	
SALSIFY,				
No. 413. Three premiums...	1 50	1 00	50	
BRUSSELS SPROUTS.—				
No. 414. Half-peck, three premiums	1 50	1 00	50	
POTATO.—				
No. 415. Seedling, originated in Worcester County, grown by the exhibitor, three premiums.....	5 00	3 00	2 00	
No. 416. Six varieties (named), twelve specimens of each, four premiums $3 00	2 00	1 50	1 00	
VEGETABLE.—				
No. 417. Collection, not exceeding fifty varieties, four premiums.... 8 00	6 00	4 00	2 00	

CHRYSANTHEMUM.

NINTH SPECIAL EXHIBITION

ON

Wednesday, November 9th,

AND

Thursday, November 10th, 1892.

[N. B. All the specimens placed in competition must be from the best types, and owned and grown by the competitor three months.]

No. 1. For the best six Chinese, or large-flowered in pots.—distinct named varieties, four premiums.....
$8 00 6 00 5 00 4 00

No. 2. For the best six Japanese, in pots, distinct named varieties, four premiums.....
$8 00 6 00 5 00 4 00

No. 3. For the best six Pompon, in pots, distinct named varieties, three premiums.....
$6 00 5 00 4 00

No. 4. For the best three plants, in pots, from Amateurs,—distinct (not named), four premiums.....
$5 00 3 00 2 00 1 00

No. 5. For the best display, in pots, any variety, four premiums .....
$8 00 6 00 4 00 2 00

No. 6. For Specimen Plant of any variety, four premiums..
$4 00 3 00 200 1 00

No. 7. For the best six Japanese, in pots, not to exceed 8 in. and not to exceed 4 blooms on each, three premiums
$4 00 3 00 2 00

No. 8. For twelve Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums.....
$4 00 3 00 2 00

No. 9. For six Cut Blooms of Japanese, named, with long stems and foliage, in vases, three premiums..... $3 00 2 00 1 00

No. 10. For six Cut Blooms of Chinese, or large-flowered, named, with long stems and foliage, in vases, four premiums $4 00 3 00 2 00 1 00

No. 11. For twenty-four sprays, Chinese or Japanese, named, not less than twelve varieties, in vases, four premiums $5 00 4 00 3 00 2 00

No. 12. For twenty-four sprays Pompons, named, not less than six varieties, in vases, three premiums.$3 00 2 00 1 00

No. 13. For one Cut Bloom of Japanese, named, with long stem and foliage, two premiums.....$2 00 1 00

No. 14. Tall Vase, long stems, with foliage, three premiums.. $3 00 2 00 1 00

There will be no restrictions as to the manner of displaying Cut Blooms.

The sum of Sixteen Dollars may be awarded in gratuities for meritorious exhibits.

☞This Exhibition will be open to the public from 2 P. M. until 9 P. M., Wednesday, and from 10 A. M. until 9 P. M., Thursday.

ADMISSION 10 CENTS.

N. B. All articles intended for this Special Exhibition must be in the Hall and ready for inspection by the Judge by 12 o'clock M., precisely, of the first day of the Exhibition.

By authority of the

COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS.

Attest:

EDWARD WINSLOW LINCOLN,

Secretary.

OFFICERS AND COMMITTEES
OF THE
WORCESTER COUNTY HORTICULTURAL SOCIETY,
FOR THE YEAR 1891-92.

PRESIDENT:

HENRY L. PARKER, of Worcester.

VICE-PRESIDENTS:

STEPHEN SALISBURY, of Worcester; GEORGE E. FRANCIS, of Worcester; O. B. HADWEN, of Worcester.

SECRETARY:

EDWARD WINSLOW LINCOLN, of Worcester.

TREASURER:

NATHANIEL PAINE, of Worcester.

LIBRARIAN:

ADIN A. HIXON, of Worcester.

TRUSTEES (BY ELECTION):

George Cruikshanks,	Lunenburg.	Henry Phelps,	Washington, D. C.
O. B. Wyman,	Shrewsbury.	David L. Fiske,	Grafton.
Charles E. Parker,	Holden.	Henry B. Watts,	Leicester.
Frederick A. Blake,	Rochdale.	Edward L. Davis,	Worcester.
James F. Allen,	Worcester.	Henry Reed,	"
Henry Woodward,	"	James Draper,	"
William T. Merrifield,	"	F. M. Marble,	"
William H. Earle,	"	Luther R. Eames,	"
H. M. Quinby,	"	Calvin L. Hartshorn,	"
Frank J. Kinney,	"	Joseph Lovell,	"
Alden Rice,	"	Frederic G. Stiles,	"
John D. Lovell,	"	*Edwin Morse,	"
George F. Hoar.	"	John Midgley,	"
George Calvin Rice,	"	S. H. Record,	"
William Eames,	"	Adin A. Hixon,	"
Sylvanus Sears,	"	Simon E. Fisher,	"
Joseph Brierly,	"	John L. Peters,	"
*Thomas A. Dawson,	"	William J. Wheeler,	"
Charles Greenwood,	"	Mrs. John H. Coes,	"
Joseph W. Powers,	"	Mrs. T. L. Nelson,	"
Arthur J. Marble,	"	Mrs. Thomas Ward,	"
		Mrs. F. H. Merrifield,	"

STANDING COMMITTEES.

ON FINANCE:

Edward W. Lincoln, 1894. George E. Francis, 1893. Nathaniel Paine, 1892.

ON LIBRARY AND PUBLICATION:

Edward W. Lincoln, Adin A. Hixon, George E. Francis,

ON NOMENCLATURE:

James F. Allen, George E. Francis, Hermann F. A. Lange, O. B. Hadwen.
James Draper, F. M. Marble, Charles Greenwood, Edward W. Lincoln.

ON ARRANGEMENTS AND EXHIBITIONS:

James Draper, *Chairman.*
Calvin L. Hartshorn, Hermann F. A. Lange, O. B. Hadwen.
Adin A. Hixon, Charles Greenwood, F. M. Marble, O. B. Wyman,
Charles E. Parker, William H. Earle, H. B. Watts, J. L. Peters,
George C. Rice, Edward Hall, William H. Johnson, with
President Parker, and *Secretary* Lincoln.

AUDITORS

Henry L. Parker, George Calvin Rice.

JUDGES.

ON FLOWERS, PLANTS, ETC.:
William H. Johnson.

ON FRUITS, ETC.:
James Draper.

ON VEGETABLES, ETC.:
Charles Greenwood.

*Since deceased.

TRANSACTIONS

OF THE

WORCESTER COUNTY

HORTICULTURAL SOCIETY,

A. D. 1893-94.

PART I.

Worcester, Mass.
CHARLES HAMILTON, PRINTER,
311 MAIN STREET.
1894.

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WORCESTER COUNTY
HORTICULTURAL SOCIETY,
A. D. 1893.

ANNUAL REPORT OF THE SECRETARY.

To the Members of the

WORCESTER COUNTY HORTICULTURAL SOCIETY:

THIS Society did not put in an appearance at the Columbian Exposition in Chicago, as, at your last Annual Meeting, you concluded that you possibly might; and, because of such default, no additional trophies will be suspended from these walls. It was determined by the Massachusetts Horticultural Society, early in the year, that it would not be in the interest of that organization to make an exhibit. Had we gone to Chicago, our Fruits or Flowers must have been displayed within the space accorded to the State Society. As a prospective guest, it did not become us to inquire too minutely into the reasons that decided the final action of our hosts. It has been intimated that there may have been a difference of opinion upon the matter of expenditure; that there were who cherished a conviction that the Commonwealth should defray the cost of making a Horticultural Exhibit; insomuch as every specimen would be contributed by individuals, at much personal trouble and self-denial, without prospect or hope of ulterior benefit. Massachusetts is reputed to have expended some $175,000, for one purpose or another, in connection with the Columbian Exposition; her most notable display being an assortment selected from the Members of the General Court,

for which suitable recognition will doubtless be accorded. But there was nothing to spare for the gardens and orchards, whose produce was so conspicuous at Philadelphia, A. D. 1876, and whose apples, at least, have achieved a proud pre-eminence throughout the older States of the Republic. The crude pot-hooks and tortuous scrawls of our school-children are gathered, from far and near, to do service as space-fillers, and money is not lacking to pay the bill. But when we would show the cull and choice of our Holdens, or Hubbardstons; our Mothers, or Sutton Beauties; the Old Guard of local pomology that never met their Waterloo! we are left to defray the cost of Exhibition, beside suffering loss of the specimens, irreclaimable because of their perishable nature. And it is ever thus, in a monotony that becomes wearisome. There seems to be prevalent a congenital incapacity to discern the actual source of the wealth of nations, that might well suggest the need of more skilful treatment for the blind as well as for the insane. The mills of men, as of the Gods, may grind slowly, and as fine as you please;—but what, after all, is the grist? Can you declare and maintain your independence of the earth, with its teeming harvests? The Committee on Ways and Means spend week upon week listening to the comparatively few workers at loom or rolling-mill, who ask that the countless millions may be forced to contribute to the profit of their private business! Does any one hearken to the cry of the consumer, beseeching only that nature and art may be allowed free course; and that besides untimely frost or drought; blight, or fierce hurricane; his meagre returns from exacting toil upon rugged acres shall not be taken from him by unfair discrimination? A tub was thrown to the whale, it is true, ballasted by a 25-cent impost on Provincial potatoes, which do not seriously compete with our own product, and for which we do not wish to pay unusual prices when we send to Nova Scotia for new and healthy seed. Barley is also subject to duty, if grown in the Dominion; but what does that profit those who living in Negation, are not supposed to know the uses of malt; or to value the original package for the sake of a latent virtue that is outlawed in the extract! There are Schools of Physics and Metaphysics, until the brain becomes tired in computation of the provision for

teaching that which we better not learn. The General Court perplexes itself with local snarls concerning shoals of unsavory fish, floundering about in hopeless entanglement among the meshes woven for inferior sculpins. But the Experiment Station so sadly lacking in such localities as this; the imperative wants and possibilities of research and discovery in every branch of Terræculture throughout a County so large as Worcester, with its diversity of climate, soil, and geographical contour; are wholly overlooked, or dismissed with scornful indifference. What is the field ripe for the harvest; or the orchard laden with bounteous promise; to the Professors of *Labor!* forsooth, who toil not, neither do they spin; but from out whose mouths issue yarn never ending in tissue yet constantly attenuating in thread; the sinuous demagogues of glib tongue, whose religion is office in continuous tenure, and who live up to their faith! It is not that this Society, in particular; or Horticulturists elsewhere in Massachusetts; are suppliants for public bounty: their contention is simply that they shall not be singled out, as the only class of producers in this Commonwealth able, and therefore compelled, to take care of themselves. A Republic can only endure strong and prosperous, when the equality of its citizens is recognized, as well in practical administration, as in official lip-service at Cattle-Shows and Horse-Trots!

For matter of fact, perhaps it is fortunate that this Society was not formally represented at Chicago. It happens to be the Odd Year, as known to Pomology, when for some reason not universally acknowledged, yet mayhap not wholly inexplicable, our most valuable Apples return scarcely any harvest. Our tables may show sample-plates of Baldwin, Hubbardston, or Mother, in Autumn: for the day will never dawn while life endures, when the Orchards of Worcester County shall refuse to yield measurably, if not immoderately, as too often wrongly allowed in the even year. But when it is our purpose to challenge the Pomologists of the Republic for pre-eminence in especial classes, we cannot but wish, or insist, that our efforts shall not be handicapped by unnatural conditions. Chief among which may be counted, because of recent experience, unbroken drought at the formation of the embryo, prolonged throughout

the period when the young fruit was assuming form and substance; that and other adverse influences culminating in a tropical hurricane which stripped where it did not uproot the tree; and sapping faith in the assurance of seed-time and harvest, while ruthlessly annulling the labor of an entire season.

Since the above was written, I have received a copy of the "Paper," full as an egg of meat, which our honored President read before the Massachusetts Horticultural Society, on February 4th, ulto. Dilating upon "The Economics of Horticulture"; its theories in speculative science and their beneficent application in practice; contrasting, in terse narration, what has been done, and is now doing, with a vision in perspective of what might be achieved under propitious circumstances; *President* Parker spake thus pat and to the precise point of my contention:

"And what forbids the Commonwealth, which from time immemorial has taken Agriculture under its protection, which has drawn annually so many thousands of dollars from its treasury for the destruction of insect pests, for sanitary purposes, for experimentation in sewage disposal, for a thousand things from which no return could ever be expected—what forbids the Commonwealth from lending to these Societies its fostering care, when it can so easily be demonstrated that every dollar thus spent will prove a paying investment?"

The display of Out-Door Grapes by the Agricultural College of Massachusetts, on the 5th October, ulto, for which we were, and shall continue, so much indebted to the zealous interest of our veteran Judge of Fruits,[1] sharply marked a stage in the achievements of our local viticulture. Within the memory of the writer, a few clusters of Isabella in a propitious season; a few bunches of Northern Muscadine, no matter what the season; were all that enabled indulgent parents to set the children's teeth on edge. The introduction of the Concord, for which Horticulture owes such an unpaid and, as it were churlishly acknowledged, debt to Mr. Bull, defined the first real step towards actual improvement of the Grape in quality and hardiness. Since then viticulture has progressed *a pas de géant:* the main difficulty being to impose a check upon that good nature which is too ready

[1] James Draper, Esq. See Appendix for list of the ninety-two varieties. E. W. L.

to indorse a new fruit, upon the solicitation of the oily tongue enlisted in its behalf. I know not how many of you concur in my individual appreciation of what are familiarly known as the Rogers Numbers. Cherishing a strong partiality for them, and therefore having devoted some time and care to their culture, it was a pleasure to avail myself of the courtesy of Mr. Draper, whereby I was enabled to test, at leisure, a baker's dozen of those superior hybrids. One or two, *Goethe* notably, were scarcely ripe enough for a decided opinion. The size of the berries was noteworthy; especially so in the cases of *Herbert*, and *Massasoit*. The black approved themselves ripest; although it seemed as if a somewhat longer exposure to an autumnal sun would have mellowed the pulp in almost every case, perhaps eliminating a slight foxiness traceable to the inferior parent. There are many, like your *Secretary*, who rather prefer a grape that requires some chewing. For that the Rogers Nos. can be depended upon. Yet, when thoroughly mature, they will linger upon the tongue only long enough for safe exclusion of the seeds. And it would be hard to recall a season in which there has not been complete maturity of *Lindley*, *Massasoit*, *Merrimac*, and also in the personal experience of the writer,—*Barry*. It should be noted in line with the argument of your *Secretary*, that a majority of the clusters bore manifest traces of an application of the Bordeaux mixture; showing that science and practice accord, with happy agreement, in the only County of Massachusetts that boasts, thanks to the Federal Government! and not to any concern of the Commonwealth, an Experiment Station instinct with progressive, vital utility. When sound judgment has resumed its sway throughout the State, so that vast sums will be no longer wasted in a futile struggle against insect fecundity, in regions that are essentially manufacturing, it may be that the Terræcultural Counties can obtain a hearing, and thereafter secure what will be of some direct, actual benefit.

The authority that is, and that which would be, on either side of the Atlantic, attuning a profound note in G.,—*Gladstone* or *Greenhalge*,—are tireless in their exhortations to the yeomanry of Mid-Lothian, or Middlesex, to diversify their methods of Terræculture, substituting Fruits for Corn, — Celery for Pork!

Their taste is beyond criticism, if the palate may decide the award. But thereafter comes the man who must "eat his bread in the sweat of his face," challenging these aspirants, who would fain be guide, philosopher, and friend, of the multitude with votes, to pledge themselves that the gardener or orchardist shall surely gather where he has strewn! To guaranty the laborer in furrow or vineyard, immunity from the depredations of those chevaliers who have received their accolade in that ultimate grade of modern chivalry, whereof the insignia is two tired hands surmounted by a jawbone in ceaseless motion! Will their influence be exerted to safeguard those whose work is not, and cannot be, regulated by the clock,—a mere measure of time,—but rather by the multiform exigencies of varying seasons? Will they abolish all that so-called protection which aims to put the cripple or shiftless upon a plane with the diligent and vigorous; that hybrid paternalism which ignores laws old as creation,—the alternations of heat and cold, the countless vicissitudes of drought or flood; enacting that industry and laziness shall be meted with like measure; that the Statute-book and not the laws of Nature shall determine the hours of labor; and that the sluggard, to whom adze or broad-axe are as one, shall hew to the line with either indifferently, nothing but chips resulting. "Property is Robbery!" shrieked Prudhon. *Proprius* in Latin,—that which is our own; peculiar to oneself! I take a tract of waste land, subdue it, plant it, and naturally expect to reap where I have sown. But the serfs from effete despotisms, imported to toil in our mills that thereby "Home Industry" may be protected! construe what little law they know to suit their appetites, prowling around with fire-arms and taking, with reckless violence, whatsoever they find to hand. The civil authority taxes the owner and grower upon his realty and its produce. Is there no reciprocal obligation? Does not the levy and collection of a tax imply a corresponding duty? Why do I pay a tax, at all? Not simply because it has been levied, and I cannot help myself; since then it is resolved into a wanton exaction: but on account of the security to my property and life which the whole community bind themselves theoretically, howsoever they may fall short in fact, to afford me in return for the assessment. What satisfac-

tion is mine, as I deplore the theft of my Grapes, to be assured that some other tax-payer has been stripped of a case of beer! Or how much better off am I, that the fiery wines of the Orient, from Cana of Galilee, are subjected to almost prohibitory imposts, when lawlessness is suffered to ravage my premises, robbing me of unfermented juice and fruit with equal impunity, in the original package! Theft is forbidden by the Decalogue and, from the foundation of the world, was ever branded *malum in se.* Beer and wine have been, at times, *malum prohibitum;* at other times commodities whereof the market was as free as that for milk. Yet the whole power of a municipality is directed to suppress a use because of a possible abuse! while the garden and orchard are left unprotected that the vigilant guardians of civic peace may preen themselves on dress parade. Is there a granger within range of my voice, no matter how zealous he may be that the entire physical force of the State shall be wielded to deprive his neighbor of some favorite beverage, who does not dread to leave his home on Sunday lest, on his return from "meeting," he may find that his family have been subjected to insult, if not outrage,—his farmstead to lawless depredation and waste! Stop trying to weave a silk purse from a sow's ear! groans the taxpayer from beneath his onerous burdens, and make proper use of actual forces! A true police should consist largely of skirmishers; falling back upon the military as the embodiment of the physical power of the Commonwealth. It wastes time and perverts energy trying to emulate a Macedonian Phalanx. On horseback, or availing itself of the electric cars, it may not be actually omnipresent; but it can be on the spot in case of emergency, in season to head local resistance to outlawry and to signal for re-inforcement. The shops along Main and Front *Streets* are filled with able-bodied men who should be adequate to preserve the peace of the vicinage. The outlying suburbs and detached farmsteads may well insist that they shall have some other experience of municipal government than its *exactions!*

Our local Exhibitions have been held with their usual measure of success, so far as success may be computed from exhibits. In

a majority of the lesser fruits, we appear to have actually receded: Strawberries and Raspberries, especially, scarcely coming up, either in variety or quality, to the high standard maintained in former years. Somewhat of this depreciation is justly chargeable to the season,—the prevalent drought in particular; owing to which your *Secretary*, for the first time in a long experience, was unable to gather even the smallest measure of *Hornét* or *Brinckle's Orange*. High winds have caused much damage to the larger fruits, stripping them prematurely from the trees and seriously marring them in their fall. But after all, is it not a grave question;—what do our Exhibitions teach? Premiums go to fill the pockets of those who get them. Yet what does the Society receive in return? What do we know, after the award, more than before, of the conditions under which the approved specimens were grown? Take for example, that remarkable display of Earle's Bergamot, on Sept. 14th, ulto. What, if any, were the peculiarities of soil, or culture, that conduced to their signal superiority? Its parentage renders the question one of importance, if we would perpetuate that noble variety, once so nearly lost, and now but sparsely propagated upon less than a dozen trees, on as many house-lots in the very heart of the city, liable to be built over at any time to the destruction of the trees and the extinction of the variety. And what of that lot of huge *Superfin*, shown by Mr. Moses Church, on the 28th of September, whereof the twelve specimens weighed but a fraction less than as many pounds![1] Why did not his trees die from the Blight, by which they were so sorely afflicted? Did Linseed Oil save them after all, and is it therefore an approved remedy for that mysterious disease, which comes without warning and disappears as suddenly, leaving desolation in its insidious path!

A. D. 1847,—One Hundred and Seventy-Two (172) plates of PEACHES were displayed upon our tables, at the Annual Autumnal Exhibition. Two years later the number of plates was Two Hundred and Fifty-Six (256); John Milton Earle contributing Seventeen (17) varieties, among which were Early Crawford, Late Crawford, Cooledge, Red Rareripe, Yellow Rareripe, George IVth,

[1] The exact weight was 9 lbs. 10¾ ounces. Their size was none the less remarkable that the award was made after a scale of points. E. W. L.

White Imperial, Beers's Late Rareripe, Bonaparte, Late Admirable, Morris Red Rareripe, Yellow Alberge, Blood, Morris White, Rareripe Seedling, Bullard's Seedling, Yellow Melocoton. Of that Exhibition, as a whole, that careful and conscientious Judge, the late Dr. William Workman, to whose diligent service upon its Committees the Society was so much indebted in its infancy, declared with unwonted emphasis:

"We have had no show of Peaches in any previous year that would at all compare with the magnificent display of that luscious fruit collected on our tables this year."

Ten years later, the elder Salisbury, in his Report upon our Grapes, Peaches, &c., &c., utters the subjoined wailing note:

"It is the melancholy duty of the Committee to ask the particular attention of the Society to the specimens presented of the most delicious of all fruits, the Peach; and first, thanks must be offered to the contributors who, under the discouragement of an unpropitious season, with extraordinary public spirit, have offered the Peaches on your tables which, as in the case of some other farmers' families, are more excellent in their pedigree than in themselves. . . . The disease called the Yellows has continued its destructive course, and it is still a mystery to the most skilful observers of vegetable life."

A. D. 1866, *Judge* Francis H. Dewey, from the same Committee, reported:

"The Committee deeply regret that their labors were greatly diminished, owing to the reduced number of entries. The severe weather of last winter had been especially injurious to the fruits coming within their jurisdiction. Of Peaches, not a single specimen was presented," &c., &c.

Our latest winter was as severe as that to which *Judge* Dewey referred, but yet on the 21st of last September, the display of Peaches in our Hall was of singular excellence and variety. It must be confessed, however, that the Yellows betrayed its presence in the mottled skin of many specimens, otherwise promising; although by their side were other lots immaculate in appearance and of manifestly untainted texture. Are we careful to plant pits that are free from disease? Of course, there cannot be absolute certainty; but then it rests with ourselves alone

whether to reject or use the stones of fruit that is surely tainted. Wrote Andrew I. Downing, a half-century since, in the very first edition of his invaluable work on "The Fruit and Fruit-Trees of America":

"In this total absence of proper care in the selection both of the seed and the trees, followed by equal negligence of good cultivation, is it surprising that the peach has become a tree comparatively difficult to preserve, and proverbially short lived! . . .

"The utmost care should be taken to select seeds for planting from perfectly healthy trees."

Are we wiser than our fathers, or merely too careless or lazy to profit by their experience? In the most recent competition for our premium proposed for—"A new Seedling Peach originated in Worcester County"; it was discouraging to note the number of specimens offered, in which pervading taint was manifest to the most casual inspection. Are peach-stones obtained with such difficulty that we must needs make use of those from infected fruit? Our Hall should not be turned into a quarantine station, and corrupted or diseased fruit should find no welcome in it, being outlawed always and everywhere.

Mr. Downing adds:

"All specific applications to the root, of such substances as salt, ley, brine, saltpetre, urine, &c., recommended for this disease, are founded on their good effects when applied against the *borer*. They have not been found of any value for the Yellows."

Fifty years have rolled by, and it is but a short while since we had a note of encouragement from Amherst, conveying glad tidings of great joy, fraught with assurance that the Yellows had been finally conquered by a direct application of specific remedies. That note is attuned more softly, of late, and at no time became loud enough to disturb the music of the spheres. But now comes our honored Associate, venerable among Pomologists everywhere, of whom he stands towards the ripe close of a stainless life *facile princeps*, John J. Thomas, challenging attention to the experiments of Dr. J. F. Smith, of the Department at Washington, by which it is made to appear conclusively that "applications of potash, phosphoric acid, nitrogen in various forms, bone-black, nitrate of soda, sulphate of ammonia, ashes,

&c., &c., have no appreciable effect towards the cure or prevention of the Yellows in the Peach." The opinion of Mr. Thomas is, that "we must look to some other remedy than applying compounds to the tree. So far, the only efficient cure is the removal of the affected trees by the roots."

Shall we therefore abandon the problem as insoluble? Home-grown peaches in plenty would be as agreeable to the palate as helpful to the pocket. Memory yet recalls the exquisite flavor of the Cooledge, when first introduced; of the Red, and White, Rareripes, with the Royal George; either or all plucked at complete maturity, with flesh warmed by the rays of an autumnal sun. Is the task of re-invigoration too arduous, so that we would fain leave it for others to achieve? The Commonwealth maintains Normal Schools to show how to teach! Might it not be fully as useful were there Schools that would instruct in what manner, in what measure, and under what assured conditions, the noblest of all fruits of a temperate zone, can be produced in pristine health and vigor! Does our Society attain its loftiest aim when it sets its members in a row, and bowls them over, indiscriminately, with fifty-cent gratuities?

Lacking somewhere nigh a quarter of the century, the Worcester Agricultural Society was founded, in this County, by men foremost in their respective avocations. Throughout a full generation it went on its way, strengthening in purpose and gaining ever more popular favor and support. It stimulated betterment, provoked rivalry, and achieved eminence far beyond the especial confines of its peculiar province. Had it done nothing else save impress the vigor and excellence of the Short-Horn and Ayrshire breeds of cattle upon our native herds, no one could with truth dispute that the benefits resulting from the existence of the Society more than repaid the cost and trouble of its origin and maintenance. The Jersey had not yet left the Channel Islands, to be-fuddle the average Yankee with its superfluous cream and deficient milk! But cream cannot be made to serve for a beverage, so perhaps our fathers were well enough off with the old-fashioned udder that stripped at the pail-full. Yet the aim and efforts of the Society were not restricted to the improvement of

live stock. Much was accomplished for the development of Pomology, although the term itself was scarcely known; and in a day when the stage-coach supplied the swiftest means of intercourse, knowledge and dissemination of newer and choicer varieties of Apple, Pear, Peach, and Plum, increased with a rapidity that appears now almost incredible. They enjoyed the Baldwin and Rhode Island Greening,—so were sure of their pies; the Bartlett and Seckel answering for dessert. In the variety and high quality of home-grown Peaches, their children have never equalled them. Not content, however, so long as there were better things in prospect; and thoroughly convinced, from individual experience that the cultivation of Garden and Orchard exacted and would justify exclusive attention; the more sagacious of these men founded this WORCESTER COUNTY HORTICULTURAL SOCIETY, designed and declared to be for "advancement of the Science and encouragement and improvement of the Practice of Horticulture." Pursuing that aim, and adhering closely to that uniform line of policy, Horticulture has advanced with giant strides in this its congenial home. Town and city alike have felt the power of our organization, the eye and palate being equally gratified by its beneficent influence. We have followed our own beaten paths, interfering with none, antagonizing none; possibly provoking attempts at feeble rivalry, but never of set purpose challenging it.

Yet, of late, we have been cajoled to abate somewhat of our energy, and, out of superfluous good nature, surrender a portion of our chosen field to the spasmodic guidance of the Agricultural Society. Is it not time for us to pause and reflect if we are warranted in so doing! If we fully carry out the objects for which we were incorporated when we abnegate the exercise of our functions in favor of others who profess readiness and ability to conduct them, one week in the year! Whether, in short, we are prepared to admit the existence of another Society, in this County, which is capable of doing our especial work so much better than ourselves that we are ready and willing to quit the field, even but for a brief period? There can be no escape from this conclusion: either others do our duty more satisfactorily, which we freely acknowledge by our inaction; or we stand one

side and allow inferior experience and knowledge to usurp that direction and proficiency which has been our peculiar boast for a Half-Century. Wrote George Jaques, A. D. 1847:

"Few similar Associations have accomplished so much, in so brief a space of time, for the purposes to which they have been devoted, as has already been achieved by the Horticultural Society of Worcester County, in these the first years of its infancy."

"*If they do these things in a green tree, what shall be done in the dry?*"

And now, after the lapse of so many years, as we look around upon the multiplication of Garden, Orchard, and Park, that shine as jewels in our local landscape, is it not permitted us to inquire if this Society, to which so much credit belongs for the general adornment, can justify itself for stepping voluntarily to the rear! Grant that the Agricultural Society is involved in onerous indebtedness! Are we the horse-fanciers whose broken promises led to incurring that hopeless burden? We have obligations of our own, incurred for legitimate improvement of our property: shall we therefore start a race-track and manage a circus? Is there any option for us, if we would maintain this Society in full health and vigor, save to keep it persistently in the ways that have so far guided us safely;—the ways of thrift, active development, and open beneficence?

For it must be noted that, whereas our own Exhibitions are free to all who choose; the results of our experiments and theories being published to the entire community, without price, at the exact date of floriage or fruition; the alien entertainment which we are solicited to provide, in part, is burdened by oppressive charges. Our Members must purchase admission, with others. From our own Hall we go forth to the highways, inducing the wayfarer to come in and see what the earth hath been made to yield under assiduous culture. Elsewhere, — they *close in* the highways, put restrictions upon egress, and exact weighty fees for each successive entrance. Wherein, in all this, do you "advance the Science and encourage or improve the Practice of Horticulture?" Stimulated to the utmost during the half-century of your corporate existence, Horticulturists throughout the County

have striven for perfection, knowing that nothing else, under your rigid inspection, can attain the prizes of your high calling. They have searched keenly for the slightest blemish, well aware that the sharp eyes of your judges are trained to detect and expose the least defect. Yet now you would neutralize the good that has been achieved with so much toil and self-denial; relinquishing your official oversight and accepting *indigesta moles* in lieu of selected specimens;—the crude mass as a substitute for the consummate unit! The very aim is avowedly mercenary, defeating itself by the sheer multiplicity of objects; they, in turn, being lost to observation in the throng of sightseers whose multitude, if condensed to the extreme of immobility, best suits the acknowledged greed of the occasion. Turnstiles click to the tune of—The more The merrier! and, when movement is clogged to the inertia of utter stoppage, even casual inspection becoming impossible, it is then that you appreciate clearly the exact scope and worth of your latter-day Agricultural jamboree! A languid concern may be shown in the yield of designated animals; possibly the Dorset-Horns provoke a faint curiosity; but when it comes to a computation of gate-receipts, there is a commotion that would better herald the passage of the contribution box through a penurious and somnolent congregation.

And all for what? That we may add to the crude mass of horticultural produce heaped up before a crowded throng of careless observers, to whom the nicer points of pre-eminence, as defined by long years of critical judgment in our own Hall, are a stumbling-block and foolishness. The antics of Performing Dogs, or the capers and contortions of the Ginsling Brothers,—wherein, be it yelp or grimace,—has Horticulture part or lot! In the quaint phrase of the Prophet Abraham, "for those who like that sort of thing, such are probably just the things they like." Preserving our integrity, we can maintain our rank as one of the very foremost Societies devoted to our especial Science, and Practice, in this broad Republic. Relaxing that strict consecration, our energies are weakened by neglect or diffusion, the enforced halt becoming a vital, if temporary, paralysis. The taste and knowledge so hardly acquired, and so keenly polished, become impaired, or dulled, when constrained to the analysis of a

floral and pomological hotch-potch worse than the original chaos. Loyalty to our own Society may not preclude a mild dissipation, or indulgence, in those weak invasions of Horticulture which, at times, so absurdly challenge our supremacy. But no true pomologist will gather, in September, Baldwin, R. I. Greening, Palmer, or Sutton Beauty; no more than at the same premature date, Bosc, Comice, Seckel, Anjou, or Lawrence. To the just judge, unripe Grapes are as sour as, for a different reason, they approved themselves to the fox in fable. Our Members can continue to spoil the Egyptians, if such loot is to their taste; and the children of Pharaoh will neither know nor care. But not avowedly as members; nor with the open or yet tacit license of the Society. Our co-operation cannot be halfway, no more than we could touch pitch and escape defilement. It is of slight account what individual citizens of Worcester may do in connection with the annual attempt to compress yet a little more into inadequate space. But it is of vital consequence to American Horticulture, when the Members of a Society, acknowledging few equals and no superiors, in its specialty, throughout this wide Continent, shall continue deliberately, for the sake of a few dimes or dollars, to ignore the laws of Nature; to repudiate the lessons taught by their fathers and enforced by their personal experience; to confuse the Seasons, perverting their Harvest-Home into the mist and murk of the Autumnal Equinox!

So much at least we owe to our profession of Horticulture, that we tolerate no abatement of the honor due to its Science and Practice; that we safeguard the reputation of our fathers, and the trust which they committed to our hands, by declining to continue partakers in the iniquity that, ignorantly, or of deliberate purpose, would derogate from its integrity; and that we no longer rest content in a stupid severance of the members of a homogeneous body, choosing rather to abide by the definition of the lexicon which declares Horticulture to be the "cultivation of a garden or orchard"; and cleaving to the faith as revealed, that God "placed man in a Garden called Eden," wherein He had planted everything good to eat, and for his lack of self-denial, expelled him therefrom under sentence to "eat the herb of the field" and to follow Agriculture "in the sweat of his face"!

What God hath joined together, shall the New England Agricultural Society put *asunder!*

"Why are these things thus?" was the homely phrase in which the foremost, because truest, American Humorist set forth the puzzle that has taxed the wit of Humanity, aforetime. What was the primal cause of anything, within our immediate experience, that so far attracted attention as to provoke inquiry! And therefore, dismissing the Cosmic Egg, and the consequent evolution, the insoluble problem being now, as ever, whence came the very Egg! We apply ourselves to the question,—

"*Si parva licet componere magnis,*"

why was this WORCESTER COUNTY HORTICULTURAL SOCIETY ever constituted? I do not refer to the formal organization, A. D. 1841, when Worcester, with its stagnating Canal and nascent Railways, might be regarded as having taken permanent precedence in the County, otherwise than as its shire Town. But how did it chance, or by what wise prescience was it arranged, that just as the time was ripe the men were on hand to avail themselves of it! May not something be attributed, fairly, to political causes, speaking in the broad sense of the term; to the fact that the sessions of the General Court were held in that season of the year when Nature was putting forth all her efforts to adorn the landscape; and man, if not blind as a bat, could scarcely be insensible to what was going on around him! A remark made by the then Governor of the Commonwealth,[1] a few years after a Constitutional Amendment had fixed the commencement of the legislative year in January instead of May, wherein he expressed a fear that his support of that change was the greatest error of his political life, impressed itself upon my memory, indelibly. If you travelled to Boston, the stage-coach supplied the only possible means of public conveyance. The journey consumed a major portion of the day, so much indeed that little opportunity was afforded, between suns, for business or pleasure. None who had plodded over the turnpike, in heat and dust, were anxious to repeat the tiresome journey until the necessity became imperative. They remained in Boston; attended the Legislative

[1] The late Gov. Levi Lincoln.

session with scrupulous fidelity; and, when disengaged, sought instruction or relaxation at the Nurseries of Brighton, or Cambridge; and equally the hospitable estates of famous local Pomologists whose prolific orchards were unstinted in their bounty to worthy recipients.[1] Varieties that had not matured when the session closed were sent to acquaintances thus formed, who naturally became appreciative and steady customers at those Nurseries, as the fruits commended themselves thereafter. Honest gratitude for political preferment took an inoffensive and peculiar form of manifestation; such being the case especially with the Sheriff of Suffolk County[2] and the Adjutant General of the Commonwealth.[2] Neither omitted an opportunity to transmit to their tried friend in Worcester scions from approved trees, and ample supplies of luscious fruit in season for those Receptions at which, as they had personal experience, their official superior was wont to entertain visitors from abroad to the Annual Cattle Show. Like gracious courtesies were a habit of Zebedee Cook, Jr., and Marshall P. Wilder. Worcester was also connected by various ties with the ancient Town of Salem, whose citizens were ever eminent for that curious proclivity to the cultivation of the soil which invariably characterizes the mariner when he ceases to plough the main. Pomological specimens from the City by the Sea were familiar here, years before the name of Manning became conspicuous upon generous annual contributions to the Exhibitions of this, infant, Horticultural Society. The opening of the Blackstone Canal to a navigation, and inland commerce, which was prosecuted with dubious success until aggressive Manufactures robbed all the water, made close friends of former strangers, introducing the banker-merchants of Providence to the yeomanry of Central Massachusetts, and riveting the ties of profitable intercourse with the bonds of social courtesy. Since in those Arcadian days, Fruit was a staple article of entertainment. Apples were placed before distinguished guests for grateful refreshment, and none looked upon their

[1] It may be pertinent to note, in this connection that, upon the roll of "Original Founders" of "The Massachusetts Horticultural Society," are conspicuous the names of Oliver Fiske, Levi Lincoln, William Lincoln, and Daniel Waldo, all of Worcester. E. W. L.

[2] *Sheriff* Sumner, and *Adjutant General* Dearborn. E. W. L.

garnishment of the table as anything out of the way. Oysters were but little known in the era of stage-coaches, and Lobsters not at all. Simplicity dominated the feast and hearty digestion waited upon wholesome appetite. Milk, of course, was in plenty, supplying material for creams and custards. But of the supper, as now known! so artificial, so monotonous, and shall I not say? so cloying! — there was neither trace nor premonition. How welcome, then, came the new varieties of Pears; the rare, toilsomely grown clusters of delicate, exotic Grapes! For upon those occasions of social amenity, when the Providence Plantations were not represented in person, by their foremost citizens, generous hampers of Chasselas, Grizzly Frontignan, Black Hamburgh, and Muscat of Alexandria attested the interest, if not the presence, of Brown and Ives. And there was "sound of revelry by night" when, at the close of their Annual Harvest-Home, of a bright October day, young men and maidens met in the dance to celebrate the Festival that was a culmination of long-cherished hopes; a Festival that exacted no charge for admission, since the Horse had not yet imposed an onerous Debt; a Festival that was free to all,—enjoyed by all,—whereof the fond remembrance is cherished as a priceless possession by a surviving few, who can never forgive the reckless mismanagement that forfeited such innocent enjoyment for generations that shall come. And all,—to demonstrate, what was never in doubt, that one horse can move faster than another!

All which is Respectfully Submitted

[by]

EDWARD WINSLOW LINCOLN,

Secretary.

Horticultural Hall,
Worcester, Massachusetts,
November 1, A. D. 1893.

APPENDIX.

LIST OF GRAPES GROWN AND MATURED OUT-DOORS

BY THE

AGRICULTURAL COLLEGE OF MASSACHUSETTS, A. D. 1893.

EXHIBITED AT WORCESTER.

Worden.
Diana.
Eaton.
Concord.
Empire State.
Triumph.
Seedling No. 18.
Grier's No. 2.
Arnold's No. 1.
Arnold's No. 2.
Arnold's No. 16.
Centennial.
Lee's Prolific.
Oneida.
Dutchess.
Pocklington.
Moore's Diamond.
Northern Muscat.
Champion.
Wyoming Red.
Goethe (Rogers No. 1).
Massasoit (Rogers No. 3).
Wilder (Rogers No. 4).
Lindley (Rogers No. 9).
Agawam (Rogers No. 15).
Merrimac (Rogers No. 19).
Requa (Rogers No. 28).
Rogers No. 30.
Rogers No. 32.
Rogers No. 33.
Rogers No. 34.
Arminia (Rogers No. 39).
Essex (Rogers No. 41).
Herbert (Rogers No. 44).
Salem (Rogers No. 52).
Iona.
Martha.
Oriental.
Norman.
Lady.
Elvira.
Elsinborg.
August Giant.
Highland.
Woodruff Red.
Ulster.
Witt.
Pearl.

Grier's Golden.
Clinton.
Hayes.
Green Mountain.
Golden Gem.
Jewell.
Moyer.
Montefiore.
Early Victor.
Brilliant.
Mills.
Peabody.
Rochester.
Jessica.
Ann Arbor.
Niagara.
Cottage.
Creveling.
Faith.
Janesville.
Delaware Muscat.
Pizarro.
Prentiss.
Etta.
Jefferson.
Antoinette.
Secretary.
Augusta.
Amber.
Victoria.
Lady Washington.
No. 42.
Delaware.
Perkins.
Transparent.
Berckmans.
Vergennes.
Esther.
Poughkeepsie.
Golden Drops.
Caywood's No. 50.
Eldorado.
Bacchus.
Norton.

REPORT OF THE LIBRARIAN.

WORCESTER, Nov. 1, 1893.

TO THE MEMBERS OF THE

WORCESTER COUNTY HORTICULTURAL SOCIETY.

In presenting the Annual Report as your Librarian I desire to congratulate the Society on the increased interest taken in the Library, not only by the members but by many who have come from a distance to consult its volumes for needed information on horticultural matters.

The following books, periodicals and papers have been added the past year :—

United States Department of Agriculture. Report of the Pomologist for 1892. H. E. Van Dieman.

Bulletin No. 3. Report on the Experiments made in 1891 in the Treatment of Plant Diseases.

Weather Bureau Reports. Bulletins Nos. 12 to 19, inclusive.

Reports from the Consuls of the United States. Nos. 142 to 157.

Bureau of American Republic. Bulletins Nos. 50 and 55.

Smithsonian Institution Reports : National Museum. Part 2, 1886 ; Part 2, 1887 ; Part 2, 1888.

Tennessee State Board of Health. Bulletins for the year.

Cornell Agricultural Experimental Station Reports. Bulletins Nos. 44 to 57, inclusive.

Michigan Agricultural Experimental Station Reports. Bulletins No. 88 to No. 95, inclusive.

Birds of Michigan. Pamphlet.

Rhode Island Experimental Station Reports. Bulletins Nos. 19 to 25, inclusive.

Fifth Annual Report of the Board of Managers of the Rhode Island College of Agriculture. Part 2, 1892.

Massachusetts Agricultural College Reports. Bulletin No. 44.

Special Bulletin. Analysis of Corn.

Tenth Annual Report of Board of Control, Agricultural Experimental Station.

Hatch Experimental Station Reports. Bulletins Nos. 20, 21.

Hatch Experimental Station Meteorological Observation Reports. Bulletins Nos. 46 to 57, inclusive.

Massachusetts State Board of Agriculture. Report for 1892.

Massachusetts Crop Reports. Bulletins Nos. 1 to 6, inclusive.

Directory of the Agricultural, Grange and similar organizations in the State. February, 1893.

Second Annual Report of the Trustees of Public Reservations, 1892.

A Memorial to Congress on the subject of a Road Department at Washington.

Picture of the Horticultural Building at the World's Columbian Exposition. A. G. Bullock.

Massachusetts Farm Laws by E. H. Bennett and S. C. Bement. Massachusetts Society Promotion Agriculture.

Report of Parks-Commissioners, Worcester. E. W. Lincoln.

Valedictory Address of F. A. Harrington, Dec. 28, 1892.

Address of Hon. H. A. Marsh, Mayor, for 1893.

Report of American Pomological Society, Session of 1891.

Remarks of J. H. Walker, House of Representatives, Aug. 23, 1893.

Town Records of Worcester, 1817 to 1821. Society of Antiquity.

Transactions of Worcester North Agricultural Society. George Cruickshanks.

From Massachusetts Horticultural Society:

Abandoned Farms Catalogue, Nov., 1892.

Loudon's Gardener, Monthly. Vols. 1 to 8, inclusive. 1826 to 1832. Formerly in library of Downing.

Massachusetts Horticultural Society Reports. 1891, part 2; 1892, part 1; 1893, part 1.

Agricultural Gazette of Australia. Part of 3 years. Dea. Proctor.

Columbian Tribute. From F. S. Blanchard & Co.

American Agriculturist. Vols. 16 and 17, bound. American Antiquarian Society.

Report of Metropolitan Parks Commission, Jan., 1893. E. I. Comins.

French Plates—Pomology. 25 numbers. Col. Wilson of Milton.

Commercial Bulletin. From George M. Rice and Wm. I. Holmes.

Purchased by Society:
Silva of North America. Vol. 5. Prof. Charles S. Sargent.

Dewey Fund:
The Shrubs of North-Eastern America. Charles S. Newhall.
Seedlings. 2 volumes. Sir John Lubbock.
Revue Horticole, 1892. Bound.
Journal of Horticulture, Eng. Vol. 25, new series, bound.
Curtis Botanical Magazine. Vol. 48. Eng. Bound.
American Florist.
American Gardening.
American Agriculturist.
Country Gentleman.
Garden and Forest.
Massachusetts Ploughman.
Rural New Yorker.
Vick's Magazine.
Mehan's Gardening.
Agricultural Gazette. Eng.
Gardener Chronicle.
Garden.
Gardening Illustrated.

All which is respectfully submitted.

A. A. HIXON, *Librarian.*

REPORT OF THE TREASURER.

NATHANIEL PAINE, *Treasurer*,

in account with WORCESTER COUNTY HORTICULTURAL SOCIETY.

DR.

1892, Nov. 1.	Balance of cash as per last report,	$327.91
1893.	Received on account of temporary loan,	494.58
Nov. 1.	Received from Chrysanthemum Exhibition,	55.85
	Received interest on deposits to date,	23.51
	From sale of tickets to Reunion,	117.00
	From rent of stores to date,	5,666.68
	From rent of hall to date,	4,368.15
	For membership fees to date,	64.00
	Total,	$11,117.68

CR.

1893, Nov. 1.	By City taxes to date,	$ 618.00
	Water bills,	81.97
	Temporary loan paid,	1,500.00
	Coal bills,	566.57
	Cash to judges,	150.00
	Worcester Agricultural Society,	100.00
	Interest on mortgage loan,	750.00
	For printing and advertising,	331.21
	On account of Reunion,	211.50
	Cash to essayists,	60.00
	Worcester Gas Light Co.,	663.23
	Premiums,	1,416.82
	Repairs and alterations,	1,395.84
	Safe Deposit box,	5.00

	Books and magazines,	44.48
	A. A. Hixon, expenses, and for assistant,	666.67
	Paid on mortgage note,	600.00
	For salaries,	1,549.97
	On account of damages,	250.00
		$10,961.26
1893, Nov. 1.	Cash balance,	156.42
		$11,117.68

THE F. H. DEWEY FUND.

1893, Nov. 1. The balance of this fund exclusive of six months' interest is $1,102.95, which is deposited in savings bank.

NATHL. PAINE, *Treasurer.*

NOVEMBER 1, 1893.

The undersigned has examined the report of the Treasurer and finds the same to be correct and properly vouched, and the cash balance is accounted for.

HENRY L. PARKER,
Auditor.

OFFICERS AND COMMITTEES
OF THE
WORCESTER COUNTY HORTICULTURAL SOCIETY,
FOR THE YEAR 1893-94.

PRESIDENT:

HENRY L. PARKER, of Worcester.

VICE-PRESIDENTS:

STEPHEN SALISBURY, of Worcester; GEORGE E. FRANCIS, of Worcester; O. B. HADWEN, of Worcester.

SECRETARY:

EDWARD WINSLOW LINCOLN, of Worcester.

TREASURER:

NATHANIEL PAINE, of Worcester.

LIBRARIAN:

ADIN A. HIXON, of Worcester.

TRUSTEES (BY ELECTION):

George Cruikshanks,	Lunenburg.	David L. Fiske,	Grafton.
O. B. Wyman,	Shrewsbury.	Henry B. Watts,	Leicester.
Charles E. Parker,	Holden.	W. U. Maynard,	Shrewsbury.
Frederick A. Blake,	Rochdale.	Joseph Lovell,	Medfield.
James F. Allen,	Worcester.	Edward L. Davis,	Worcester.
Henry Woodward,	"	Henry Reed,	"
William T. Merrifield,	"	Henry Phelps,	"
William H. Earle,	"	James Draper,	"
H. M. Quinby,	"	F. M. Marble,	"
Frank J. Kinney,	"	Luther R. Eames,	"
Alden Rice,	"	Calvin L. Hartshorn,	"
John D. Lovell,	"	Frederic G. Stiles,	"
George F. Hoar,	"	John Midgley,	"
George Calvin Rice,	"	S. H. Record,	"
*William Eames,	"	Simon E. Fisher,	"
Sylvanus Sears,	"	John L. Peters,	"
Joseph Brierly,	"	William J. Wheeler,	"
Charles Greenwood,	"	Mrs. John H. Coes,	"
Arthur J. Marble,	"	Mrs. T. L. Nelson,	"
Samuel Flagg,	"	Mrs. Thomas Ward,	"
Edward Hall,	"	Mrs. F. H. Merrifield,	"
H. F. A. Lange,	"		

STANDING COMMITTEES.

ON FINANCE:

Edward W. Lincoln, 1894. Nathaniel Paine, 1895. George E. Francis, 1896.

ON LIBRARY AND PUBLICATION:

Edward W. Lincoln, Adin A. Hixon, George E. Francis.

ON NOMENCLATURE:

James F. Allen, George E. Francis, Hermann F. A. Lange, O. B. Hadwen, James Draper, F. M. Marble, Charles Greenwood, Edward W. Lincoln.

ON ARRANGEMENTS AND EXHIBITIONS:

James Draper, *Chairman.*

Calvin L. Hartshorn, Hermann F. A. Lange, O. B. Hadwen, Adin A. Hixon, Charles Greenwood, F. M. Marble, O. B. Wyman, Charles E. Parker, F. A. Blake, H. B. Watts, J. L. Peters, George C. Rice, Edward Hall, William H. Johnson, with *President* Parker, and *Secretary* Lincoln.

AUDITORS.

Henry L. Parker, Fred. H. Chamberlain.

JUDGES.

ON FLOWERS, PLANTS, ETC.:

William H. Johnson.

ON FRUITS, ETC.:

James Draper.

ON VEGETABLES, ETC.:

Charles Greenwood.

* Since deceased.

First Annual Report of Monroe County Agricultural Society; 1842 and 1843.

Gift from Mrs. A. B. R. Sprague:
Vick Magazine; Vols. 2, 3, 4 and 5, bound.
Vols. 7, 10 and 11 complete, unbound.
Vols. 6, 8 and 9; one number lacking in each.
January and February of 1889.
Census of Massachusetts, 1885; Part 2, Vol. 1, and Vol. 3, bound.
Manual of General Court, 1880.

Gift from Edward W. Lincoln:
Fruit and Fruit Trees of America; edition of 1846, with colored plates.
Transactions of Worcester County Horticultural Society, 1847 to 1868; calf bound.

All which is respectfully submitted

[by]

ADIN A. HIXON,
Librarian.

13th January, A. D. 1893.

ESSAY

BY

O. B. HADWEN, OF WORCESTER.

Theme:—Deciduous and Coniferous Trees.

Mr. President:

I do not propose in the following remarks to discuss the questions of planting trees, either for shelter, or shade, or ornamental effect, only; but to encourage their planting in country places or on farms, and on the roadsides, and to influence the true lovers of rural life to make their homes and surroundings more pleasant and more valuable with tree planting, and induce, if I can, the care of trees at all stages of growth. It will be impossible, at this time, to designate all our beautiful trees even by name, but I will confine my remarks to the most prominent kinds.

The subject allotted me for this meeting is "Deciduous and Coniferous Trees." Thirteen years ago I spoke of trees to this Society, describing those sorts generally used in ornamenting grounds, both public and private; the great variety of trees indigenous to this country, with the addition of the vast number of foreign introduction that thrive so well in this climate, affording the lovers of nature and those who have a cultivated taste ample scope for full enjoyment. Trees are at once the finest objects of grandeur and beauty in the vegetable kingdom. Both in summer and winter, in spring time and autumn, they are objects of interest; when the warm days in spring awaken the buds that have been dormant during winter, and the new-born leaf springs into life, and so soon develops into leaf, the rapid changes in all the shadings and tints of color, from the opening bud in the spring to the mature leaf of the autumn, giving charm to the landscape, wherever trees are planted or grown, to those who have an appreciative eye for the adornment and embellishment of grounds. Every

hardy tree, no matter whether indigenous or foreign, is always an addition to the variety and the beauty of tree culture.

The Worcester County Horticultural Society, with its fifty seasons of planting and its influence during this period, has made its teachings manifest in what tree planting will effect; in many places within the County, and many lands about the City, now beautifully adorned by trees of stately growth, which were then utterly destitute of tree or shrub. Now then, from my experience and observation for many years, I am convinced that all homesteads of any pretentions can be improved by judicious tree planting, and nothing can embellish our farms like trees well planted and cared for. Every well regulated and pleasing farm should be abundantly planted with forest trees, which in many instances are suggestive of the better and more refined farm life.

There is no need of difficult or arbitrary rules in tree planting, especially on farms. We may plant each tree on soil adapted to its growth, and place each tree wherein it will best fit the situation, and by so doing add an accomplishment to the farm and a charm to the landscape, and a little pride to the owners.

Farm homesteads, when not enriched either by trees or shrubs, are unmeaning, unsatisfying, and seem devoid of all the comforts or accomplishments of rural aptitude. The old school of farmers were well trained in early life to cut trees, and not to plant them, but time has wrought an entire change in his former and present conditions, and he must plant trees that are beautiful at all times; that are beyond comparison in their scenic feature in the landscape and homestead. What the farms hereabout lack most are trees, and it is almost impossible to conceive the great change in the beauty of the land that may be effected by judicious planting.

The American Elm has, from the earliest period, held the front rank as a stately, shady tree, overshadowing every other tree in the forest. The Elm is emphatically a New England tree, differing in forms and habits of growth. The grand and noble elms of New Haven seem to have a type exclusively their own, with stately trunks unequalled, and tops so well furnished with arching and graceful limbs to at once become the sovereign of other woods. The Roger Williams Elm in Providence, R. I., is another tree of gigantic form, stately beyond comparison, and has been a landmark for centuries, and outlived generations of men and will outlive generations to come.

The Elms of Lancaster, in this County, are also a magnificent strain, differing in their habit of growth from other species found elsewhere, and forming the most distinguished feature of the Town.

In planting the Elm it should be given ample space. It should have room in accordance with its strength, as no other tree will thrive near it. The leaf or foliage is not equal to the foliage of other ornamental trees, either in form or in color. The English and Scotch Elms thrive hereabout, the foliage is thicker and heavier, and the trees are more compact but not as graceful and pleasing as the native Elms of New England.

The Maples are strong competitors with the Elms in streets, parks, and private grounds, and are general favorites. Several sorts are indigenous to Massachusetts. The red, *Acer Rubrum*, the rock, *Acer Saccharinum*, the white, *Acer Dasycarpum*, and the striped bark, or *Acer Pennsylvanicum*, and I occasionally find trees that appear to be sports and unnamed. Maples, both indigenous and foreign, comprise upwards of sixty varieties, and new acquisitions are brought out every season. There is no family of trees that have greater variety of form and foliage, with all shades of coloring, and no family in their variety more conspicuous, either single or in groups, when well planted or cared for, in any grounds.

The Oak, *Quercus*, comprises the largest family of the native trees, and perhaps the longest lived. It would be impossible to describe each species, or even designate them by name, if I knew them, and while they comprise the most sturdy trees and live to the greatest age, while all are very beautiful in leaf and acorn, nevertheless they have not, as yet, been largely artificially planted in this country; but those who have the fortitude to plant the Oak, or even to protect them from the axe, are well repaid. For is there anything in Nature more noble than the gigantic Oak? the enduring qualities as well as the great beauty and variety of leaf rendering each sort objects of great interest.

The Oaks root deeply into the ground, therefore are difficult of transplanting unless nursery grown, or taken from the woods when small. The White Oak, Scarlet Oak, Red Oak, Yellow Oak, Chestnut Oak, are all natives of this county. Then we have many foreign sorts that are very interesting in their habit of growth, with curiously cut foliage; as a family they deserve to be more extensively planted.

The Beeches, *Fagus*, are among the most valuable trees for all places, and in their variety differ in a marked degree from other trees. A peculiar feature of the Beech family is the tendency to retain its foliage during the winter, and although browned by frost, or green, this renders the tree picturesque the year round. The White Beech, indigenous here, thrives better farther north. The branches extend in a

horizontal position, the leaf is a light green, with a singular gracefulness in its effect.

The English is more compact and of slower growth than the native, is stronger in form and color of foliage, which remains on the tree during winter and until the new leaf puts forth in spring.

The Purple Beech is a tree that is so strikingly different from other trees that it is always an acquisition in any grounds, and always an object of admiration; the dark rich color of its leaves, its shapely form and spreading branches, seem to combine the qualities that are unsurpassed. They also prove to be long lived, but thrive best in a rich, retentive soil, which has a marked effect in the foliage.

The Fern Leaved Beech is also a charming tree, with its leaf so artistically cut, furnished with the greatest abundance, and withal so light and feathery, it makes a round, compact head until old, when it branches out in the greatest profusion. The superb tree at Newport, R. I., is said to be the largest and finest in this country.

The Birches, *Betula*, are an ornamental class of trees, quite distinct in their habits, in shape, and foliage, seeming well adapted for many situations, and very effective in the landscape.

The Cut-leaved, or European Birch, is the most esteemed, and more are planted than of other sorts. It makes a very graceful tree of up right growth, and requires comparatively little space.

The Canoe Birch is a native, of robust habit, the trunk often more than two feet in diameter, with thick glossy leaves.

The Black Birch, the Yellow, and the Gray, are all natives, and when properly planted add many pleasing features to the landscape.

The Magnolias form a class of trees, that when in flower are more striking than any. Fifty years ago they were not considered hardy, were usually strawed up in winter, but later years have proved them not only hardy but thrifty,—a most interesting and ornamental family.

The Magnolia Acuminata is a native of the Western and Southern States, from latitude 44° to the interior of Georgia. As an ornamental tree nothing can be more magnificent, its stately height—60 feet—symmetrical form, its long, deep green foliage, its beautiful flowers and unique fruit, resembling a small cucumber, these combinations render it a beautiful tree for the lawn. The largest specimen in this county is in front of the residence of Colonel Winslow, in Leicester.

The Magnolias, both native and exotic, are not as freely planted as they deserve to be; the Soulangeana, the Conspicua, the Tripetela, the Macrophylla, the Glauca, with a dozen others of more recent introduction that promise well, are the finest flowering trees we have. By

giving them a sheltered situation and a rich, retentive soil, they well repay the care they receive.

The Magnolia Soulangeana is one of the strongest growing of the Chinese varieties, makes a compact head, and produces the greatest profusion of white and purple flowers. They make seed in this part of the State, which grow readily.

The Magnolia Conspicua is one of the most beautiful of the Chinese varieties. It makes a symmetrical tree, with a moderate quantity of strikingly beautiful white flowers.

Magnolia Lennei is not as strong in its growth, but is a free bloomer of crimson-purple flowers.

Magnolia Macrophylla is tender when young, but seems to become acclimated or more hardy as it becomes older. Its flowers are the largest of any of the Magnolias, and its very large leaves give it a tropical appearance.

Magnolia Glauca is a native. It makes a low growing tree, with beautiful glossy leaves and very sweet cup-shaped flowers.

There are many other deciduous trees that always embellish grounds wherever planted, among which are the Walnut, the Black Walnut, Butternut, Chestnut, the Bass, Tulip tree, Virgilia Lutea, the Gingko tree and Kolreuteria from China, the Ash, Swamp Hornbeam or Tupelo, Horsechestnut, Laburnum, Liquid Amber or Sweet Gum tree, Kentucky Coffee tree, Cercidiphyllum from Japan, all of which, with many others, are growing on my farm and seem to thrive thereon.

Coniferous trees, in our hot and cold climate, where for several months of the year snow or sleet, or bleak winds, hold undisputed sway, nothing seems more congenial than the shelter they afford to the home, also to every tree and plant. They not only afford shelter at the inclement season, but modify the temperature at all seasons; they vastly improve the landscape in all its rural and artistic features, and beautify large and small places, and enhance both the living and market value of landed property.

If the owners of lands could know or realize how much even a few trees, when well grown and cared for, will increase the living value of property, there would be more attention given to their planting.

The Evergreen trees seem by far less particular as to the season of transplanting than deciduous trees. I have planted them successfully at all seasons, if we except the season of maturing the new growth of wood, say from the middle of June to the middle of August; but always planting, if possible, with a ball of earth adhering to the roots will be more sure of success.

There is no class of trees that better repay for liberal treatment than do the conifers. Feed them well, if you desire sturdy growth and superlative leaf, for they can be made, with liberal treatment, the most beautiful objects in Nature, for what class of trees are more symmetrical in form and more beautiful in variety.

The coniferous, or cone-bearing trees, are receiving more attention as the country grows old, and our people better informed regarding the variety and beauty of the Evergreens.

The White Pine, *Pinus Strobus*, is one of the most common as well as one of the most valuable; it is readily transplanted, and with good treatment makes rapid growth. It makes an excellent tree for shelter, and has no insect enemies. I have a belt, planted for the purpose of shelter in 1846, that are large enough to saw into lumber. The color of the leaf is a deep and clear green, rarely discolored either by heat or cold. There are two trees in Institute Park that are of gigantic growth, and one near Newton Hill nearly as large.

The Pitch Pine, *Pinus Rigida*, is also common about here, but not as ornamental as the white and more difficult of transplanting. The Scotch and Austrian were at one time considerably planted, are of vigorous growth, and quite ornamental. The Cembra Pine, indigenous in the mountains of Switzerland, is a beautiful tree, of dwarf habit of growth. The leaf resembles the White Pine, the tree is very compact and shapely, and is a very attractive tree, and for small places is the best of the pines.

The Hemlock, *Abies Canadensis*, is common throughout the State, and one of the most beautiful Evergreen trees; the beautiful green leaves and the graceful sweep of its branches is unequalled. I have some planted about forty years that are stately, and the Queen of the Evergreens both in summer and winter. They are easily transplanted. Colonel Wilder once sent an order to England for their best Evergreen trees, and they returned him the Hemlock.

Of the Spruce, *Abies*, we have a goodly number that thrive here and are found worthy of cultivation. The most prominent is the Norway, *Abies Excelsa*, which of late years has gained the prominence among the Spruces.

It makes a vigorous and upright growth, of pyramidal form, often graceful in its lower branches. It is particularly adapted for large plantings, where shelter is an object. Although of foreign origin it seems perfectly at home here. It makes its seed cones, and young trees are frequently found growing in the shade of the older ones. I

have trees that have been planted forty years that are more than sixty feet high, with a corresponding diameter of trunk.

The Nordmann Spruce is of more recent introduction, and is becoming very popular. It is very well furnished with limbs that extend from the trunk in a horizontal position, with large green leaves that are white underneath. It is always pleasing by contrast with the other Evergreens.

Then we have another from Colorado, the *Picea Pungens*, that is likely to prove a great favorite. I have two some fifteen feet in height, with dense growth and pyramidal form, the foliage a rich blue or sage color,—a most charming and interesting Evergreen. It needs liberal treatment to bring out the deepest color of the foliage.

The *Concolor* is quite rare, large specimens not often seen. They are of slow growth, with long foliage of very light color,—a remarkably beautiful tree. A fine one is to be seen on the grounds of H. H. Hunnewell, in Wellesley.

The Larch, *Larix*, although deciduous, are cone-bearing trees, and we have both the native, usually called Hackmatac, found growing in swamps in this county. It makes a tall but not a shapely tree, as do the European Larch, which are of vigorous, shapely growth, are well adapted for shelter, and charming in the landscape. They make fine timber, as the stem holds its size well towards the top.

The Japan Larch, or the *Larix Leptolepis*, is the most beautiful of the family, with long green foliage, and well and evenly furnished with limbs. There are but few of this sort about Worcester, but they are very marked trees. The Larch also bear seed, which grow in sheltered places, and in good ground are of very rapid growth.

It is especially the province of Agricultural and Horticultural Societies to encourage ornamental tree planting, as well as fruit tree planting; they both contribute to an effective landscape. A man may very properly have a belt of trees, at the northward portion of the farm, to shelter the orchard as well as all crops. At the same time a shelter along the roadside will be found by practical farmers in nowise to conflict with the economies of agriculture, but largely contribute to true taste and the higher and better course of husbandry, in which every land-owner should take personal pride and ambition to contribute his just share to himself and to posterity.

Now, Mr. Chairman, I have spent the major portion of my life in rural pursuits. Within the past fifty years I have planted very many trees, both fruit and ornamental, and wherever I see good tree plant-

ing I know they teach men the value and beauty of rural life, a life that brings men into daily contact with Nature, giving them a pure, simple, and rational life, wherein they acquire a definite and correct idea of each tree and plant. For every place must have its own contour of surface, its own interpretation of the design or taste of its owner, and the amount of pleasure and profit will be commensurate with the energy and care bestowed.

19th January, A. D. 1893.

ESSAY

BY

GEORGE B. ANDREWS, of Fitchburg.

Theme:—Hardy Grapes. Their Cultivation and Variety.

Mr. President:

Twenty Years in My Own Vineyard.—The Grape.

Will woman ever cease to sing its praises? Or man relax one particle in the interest that he has ever felt for this, the most productive, and long lived, fruit-bearing vine. The fact alone that it is one of the oldest fruits of which we have any record, would make its cultivation interesting; add to this the grace and ease with which it adapts itself to whatever position the viticulturist may see fit to place it. It is not to be wondered at that it entwines itself around our hearts, as in its wild state it does around the giant oak of the forest, climbing to the topmost branches that it may bask in God's warm sunlight. Truly you cannot expect much new of me to-day, on this subject. The old saying is that there is nothing new under the sun, and the very fact that this subject has been written upon ever since the deluge would lead one to think that it might be well-nigh threadbare.

But I have often found myself wondering what particular system Noah adopted in his vineyard; but it would at least be a little antiquated for us to follow. As the cry of discovery and immigration has ever been westward, so has the cultivation of the vine pushed itself ever west; from Asia, where it grew in abundance, to Europe, where in some sections of that country it has formed one of the chief sources of wealth to the people, and the vineyards of France have furnished material for many an artist's canvas. The first settlers in this country found the woods abounding with wild grapes, proofs of which are abundant, one instance in particular occurring in this State, in the town of South Deerfield, called the Bloody Brook massacre,

when some fifty sturdy yeomen met an untimely death at the hands of the Indians.

The story is told that these men were conveying their grain to market. While passing this spot they were induced to stop and refresh themselves with the native grapes that grew in abundance along this brook. Leaving their teams and guns by the roadside, they soon forgot all else, in their eagerness to secure the ripe fruit. While thus engaged they were surprised by a party of Indians, and nearly all were killed. But these native grapes were inferior to the European varieties, and our forefathers spent much time and money in introducing European varieties, especially in Pennsylvania and Virginia, but with little success; and, in fact, but little was done in grape culture in this country until this century, when a wild grape was found on the Catawba river by John Adlum, and it was called the Catawba; after this appeared the Isabella, which for many years was our leading grape. In 1852 Mr. Bull, of Concord, gave us the Concord grape, and it can be truly said that the introduction of this grape was the turning point in the grape industry of this country east of the Rockies, for now that attention was called to the propagation of our native vines it was taken up all along the line, and new grape followed new grape in quick succession. Since the introduction of the Concord there have been about 300 varieties of grapes named, and a great share of them sent out east of the Rockies, and about one-third of these have been pure Labruscas, until to-day the cultivation of the grape claims a larger share of public interest than any other fruit. And we cannot but think this is right, for we find in the grape a regulator and stimulant possessed by no other fruit, and in many cases, when used as a medicine, performing great cures. To convince one that they are being consumed as an article of food more and more every year, they need but to compare the sales in their own town, say three years ago, with those of to-day. And as the consumption has gradually increased, the price has as gradually decreased. Twenty-five years ago a prominent grape grower in the West made the remark that the man had yet to be born who will be able to purchase our best native grapes for less than fifteen cents a pound. Well, that shows how little man knows of the future. You and I were, at that time, pretty well along on the road of life, and we saw the past fall grapes selling for one-third of that price. That man is probably no more surprised at the decline in the price of grapes, than he is in the enormous increase in their production. And let us stop here for a moment and see what this production is. In 1891 the industry represented a total value in

land, improvements, machinery and appurtenances, of $155,661,150, and furnished employment to 200,780 persons, with a total of 401,-261 acres in 1889, of which 307,575 acres were in bearing, producing 572,139 tons, of which 267,271 tons were table grapes and 240,450 tons were used for producing wine, making 24,306,905 gallons, 41,-166 tons for raisins, and 23,252 tons for dried grapes and purposes other than table fruit; add to this 45,000 acres of bearing and 15,000 acres of non-bearing vines, an aggregate of small vineyards from one-fourth of an acre upward, grown to supply a home demand outside of the regular district already mentioned, to be found in every State and Territory of the Union, producing in 1889, 67,500 tons of table grapes and 22,500 tons of wine grapes, or 1,875,000 gallons of wine; add to this several thousand acres that have been set in the South during the past two years, and we can form some idea of what the grape industry of the country is.

Twenty-odd years ago I entered the field as a grape grower. We were, at that time, following the practice of most of the farmers of our neighborhood, that of growing corn and potatoes. This brought but very little money into the house, for with the exception of the sale of a few potatoes and what butter was made, there was nothing to sell. So I was determined to set grapes, and to get out of the old ruts if I had to break the wheels in so doing.

Location. One of the most important things in grape growing is a favorable location. Especially does this hold true with us here in Northern Massachusetts, where under the most favorable conditions we need every hour's sun during the season for the growth and ripening of our best hardy out-door grapes. To accomplish this let us select some warm, southeast slope. We should not get too near the bottom of the hill, as I have seen done in many cases, as the danger there is that you may be cut a week or more short in the season by an early frost, that, had you been located 100 or even 50 feet higher up the hill, you might have avoided, and thereby have saved your crop. Neither is it a good plan to place a vineyard at the top of a hill, for the exposure to the winds damages a large portion of the fruit during the last stages of ripening. And above all things, we must have good drainage, and avoid having the vines near stagnant water. While the vine grows, and in an ordinarily wet season ripens its crop on very light, sandy land, yet the fruit produced has not as good a flavor for the table, and does not make as good a wine as when grown on heavier soil; but we must avoid too heavy soil, or we shall retard the ripening. As it is not convenient for me to transport you all to Pearl Hill Farm

and return in season to finish this paper at the appointed time, I will give you a short pen picture of my location. Pearl Hill is situated two miles north of the City of Fitchburg, and at its base is about $3\frac{1}{2}$ miles long by $1\frac{1}{2}$ wide. Leaving the City by the way of North Street you are scarcely out of its smoke before the hill looms up before you. As we approach it from this point the top of the hill presents a very bold front, from its rocky southern point, called Andrews Point; it extends away for three-fourths of a mile to the north and east. Reaching the top of Andrews Point we find ourselves standing on a massive ledge of rocks, composed mostly of Mica Chist, and sloping to the west and south. From this point a broad panorama is spread out before us: 250 feet below us, and less than one-fourth of a mile away, lies Pomaland, the home of Dr. Fisher, the veteran grape grower in Northern Massachusetts; farther to the south we see the smoke from a railroad train—it has just arrived from Boston, having travelled fifty miles and climbed 600 feet, while we, scarcely two miles away, are 400 feet above its drive wheels. Turning to the east, should it be in early morning, we should see the blood-red orb slowly lifting itself from its morning bath in old Atlantic, and as it gradually rose shaking the water from his huge form, while through the morning mist he sent kisses of sunbeams falling at our very feet, and lighting up a set of farm buildings within call of us, yet 200 feet below. It is to the northwest of these, on a gentle southeast slope, protected on the north and west by this ledge of rocks, rising 150 feet above it, that the vineyard where I have spent the greater part of my time for the past twenty years is located. Let us examine the soil; we find it a good loam, with a hard-pan bottom. This ledge is constantly decomposing, and by the storms and melting snows is brought down the steep hillside to this field, and we think adds no little to the fertility of the land. Having selected the spot, let us now prepare the land. I would prefer a good sod, after the grass has been cut; let it be plowed not less than six, or more than eight inches deep; then see to it that it is harrowed until it is all cut to pieces; during the fall, winter, or early spring, apply twenty cart loads of cow manure to the acre. As soon as the land is dry enough to work in the spring start the harrow again, and when your field is in good condition to plant to corn it is all right to plant to grapes. But first let us mark it out. You must have decided before this what method you wish to follow, and how far apart you wish the rows and vines, for the viticulturist cannot change his method of training every season, but he must adopt some system and follow it for a number of years, until he is con-

vinced that it is the one best adapted to his wants; or if, on the other hand, it should not prove satisfactory to him, he must gradually change to some other system, and he must ever be looking out for next year's growth of wood, and the proper ripening of the same, for in the proper development of this depends mainly the success of the next year's crop. And often in the trimming of a vine he must look ahead three years, in order to make a cane grow from the right place on the old vine, hereby proving again the necessity of the close attention of the vine grower. And no doubt it is this close attention necessary to give the best results, that make the vine so prominent among Horticulturists to-day. I will not take time to describe to you the many different ways of growing grapes as practised to-day in this country, but simply tell you what I am doing. The first grapes I set were put 6 feet by 10, and the trellis ran east and west. This, at that time, was contrary to the belief of most of the grape growers, who favored north and south as the proper direction in which to run the trellis, but since that time there has quite a change taken place in the minds of many of our prominent grape growers, many claiming that where the trellis is run east and west the vines and soil get the benefit of the sun's rays during the fore part of the day, and that in the afternoon, as it declines, the ground is not shaded by a north and south trellis, and thus gets the full benefit of the sun. But be this as it may, our experience leads us to say that it is not best to adopt any set rule, that drainage is of the most importance, and that it is best to run the trellis so that it will assist in the rapid drainage of all surface water. After ten or twelve years I thought I could not afford so much room for those vines, and I put in a row between each trellis, so that they now stand 6 feet by 5, and have always given us as fine grapes as any we have grown; but we feed them higher than where they are planted farther apart. While the most of my vines are planted 7 feet by 6, I would now plant 8 feet by 6, as 8 feet is none too much to work in. Let us now stake off our ground,—being provided with as many good stakes, 4 or 5 feet long, as we intend to set vines. We go to one corner of the field and set the first stake where we wish to have the first vine in the first row; then we establish the opposite corner, having measured off 8 feet for each row; the other end of the field is next staked in the same way. Now we are ready for the 6-foot measure, and with that and a man at the end of the rows to see that they are set straight, the stakes are put through the row, and when you are done you have a field of stakes, each stake just where you wish to have a grapevine, 8 by 6 feet apart. We are

now ready to set the vines, a much easier task than it was to set the stakes. But here arises a very serious question: what varieties shall I set? As few as possible; many a man has learned this too late. We are confined to three, the Concord, Worden and Delaware; if it would succeed well on our soil we might add the Moore, but it has never done well in our trial row.

Having secured from some reliable nurseryman good No. 1 one-year-old vines, the question arises, how shall I prepare them for setting; they should have roots from two to three feet long. For the strong growing kinds, like the Concord and Worden, I would take a cutting, but for the weaker kinds, like the Delaware, I would prefer a layer. Being all ready, we take a bundle of 100 vines in one hand, a sharp axe in the other, and with a few blows cut off all but one foot of the roots, and about two-thirds of the top. Sprinkle them well, and see that they are covered up from the dry winds, for it takes but a short time for the sun and wind to take out all the moisture there is in a vine. We now take a pail, fill it about one-third full of cow manure from the stable, and then add water enough to fill it; after stirring this thoroughly, we are ready for the field. Arriving there, I put about 25 vines into the pail, the man removes a spadeful or so of earth from the south side of the stake, and I take a vine from the pail, set it in the hole about five inches deep and up to the south side of the stake; he fills the hole, and we move on until the field is set; when done every vine will be just 6 by 8 feet apart. During the summer see that the growing shoots are kept tied to the stake, and the ground well pulverized; this is nicely done with a one-horse Acme harrow. After the foliage has dropped in the fall cut away all the summer's growth, with the exception of about three inches of the strongest shoot. The next summer keep the growing shoots well tied up to prevent their being broken off, and thus check root growth; for it must be borne in mind that the first two years are given up to the growing of roots, not top, as they are our bank account which, in future years, we are to draw upon. This has been one of the points that has given me the most trouble during my twenty years as a grape grower,—the equal balance of top and root. In the fall trim away all the wood made this year, with the exception of the strongest shoot, which we will leave about one foot long. The next spring we are ready for the trellis. We use round, split or quartered chestnut posts, 8 feet long; if cut in June they will peel very readily; piled up crosswise they season nicely during the summer, and are in good condition to set in the spring. We draw them to the vineyard in the winter, and

put them in small piles around the field. In the spring the posts are set 2½ feet deep and 12 feet apart; should you use small sawed posts, they should be set 6 feet apart. We set the end posts, then draw a line, and set the rest to the line; in this way we not only get the row of posts straight, which is of great value in cultivating, but we get every vine directly under the wire; the end posts are braced. The wire used is No. 15, and we have four to a trellis, the bottom one being 20 inches from the ground and the top one a few inches from the top of the posts; for staples we use short wire nails, driven into the post one below and one above the wire, in the shape of an x. The trellis being in position, we are now ready to grow our first bearing cane. There will be several buds start; remove all of these except two or three of the strongest. When the best of these has reached the lower wire, and been securely tied, rub off the rest. We will grow the first vine up to the second wire, and out on that wire 6 feet; then we will pinch the end. The next vine we will grow to the top wire, and out on that 6 feet, when we will stop it. If from any cause a vine shows signs of weakness, it should be stopped; this is done by pinching the end of the vine. In the fall, if it does not look strong, cut it back to the lower wire, and give it a chance to grow more roots. During the summer laterals will start out along the growing vine; these should be pinched back to one leaf. In the fall there will be no trimming, but to cut these laterals back to the main vine. Up to this time we have been growing roots and a bearing cane; now we are ready to add fruit, and we shall find it necessary to keep both eyes on the gun. When the buds start the next spring take the first strongest shoot and bend it down to the lower wire in an opposite direction to what it grew last year, and run it along this wire until it reaches the next vine, when it should be nipped; the next vine, which you remember is running on the fourth wire, you treat the same, with the exception of bringing the growing shoot to the third wire instead of the first. These are your bearing canes for next year. Now the remainder of your bearing cane will start from twelve to sixteen buds; these should be allowed to grow until they show six leaves, then they should be pinched in; the laterals will start two or three times during the summer, and must be pinched back to one leaf each time. These shoots are allowed to hang during the season without being tied, and the vine allowed to carry about five pounds of grapes. The winter trimming is very simple, and is done with one cut of the pruning shears, by removing the bearing cane from the old vine at its junction with the new cane. This method of trimming is kept

up for six or eight years; then we think the vine is strong enough to carry more fruit. But to do this we must have more leaves, for it requires just so many leaves to grow a pound of fruit; what that number is I have never been able to find out, but Nature knows, and she will have her way; try to over-fruit the vine and she will assert her rights by giving you poor fruit, for it must be remembered that the law of nature holds as true in the vegetable kingdom as in the animal, and that her object in the growing of fruit is not to tickle the palate, but to grow seeds, and thereby carry out one of the great laws of Nature, that of reproduction. But man does not care for this abundance of seeds; he would have larger fruit, more pulp, and better flavor. To do this we must work in harmony with Nature, and while we find that she cannot be cheated in her slightest wish, yet with careful tact and skilful management she can be made to respond to your bidding, and instead of two or three bushels of small, ill-flavored grapes, we will have a few pounds of large, choice grapes. This is accomplished by the severe trimming that we have described, and by a system of thinning the fruit. You must first determine how many pounds of grapes you think your vine is capable of carrying, and then cut down to that number, or what you think will make that amount when ripe. This requires no little practice. I have thinned a vineyard of 2½ acres to carry ten tons; when they were picked they overrun 500 pounds. I count up the bunches on a vine, then tell by the size of the bunches how many I wish to leave, and cut off the rest. In some cases I have removed as many as forty bunches from one vine. To secure more leaves we grow two arms instead of one, running them on the same wires in opposite directions, and treating them the same in every respect; only we have two canes to grow in the summer, and two to trim off in the fall. This is the method followed by us at the present time, with the strong-growing native grapes. In the case of the Delaware it is somewhat different; here we intend to grow four arms, two on the upper and two on the second wire, 3 feet long. As the canes of the Delaware are shorter jointed than those of the Concord, Worden, or in fact any of the Labrusca seedlings that we are acquainted with, it becomes necessary, in order to secure the proper amount of foliage, to leave the canes longer before pinching,—say as many as nine leaves to a shoot.

Diseases. The grape is subject to many enemies, both of the animal and vegetable kingdom. Let us first look at those of the animal. In the early spring, when the bud first begins to swell, and before the first tiny leaf unfolds, the advance guard appears and throws out its

picket line; they begin operations by boring a small hole into the bud and eating out the centre. When he has devoured all that is palatable he goes to the next, and it is not uncommon to find a vine with every bud eaten. The little fellow who does this is about 3-16th of an inch in length, and is of a steel blue color. We know of no remedy but to kill with thumb and finger. Rose-bug, or *Rose-chafer*, makes his appearance about the time that the grape blossoms, and in a few days they have been known to destroy large vineyards. Our method of destroying them is to go over the vines and kill the bugs with thumb and finger; they are usually thickest next to the grass land, as that is a good place for them to lay their eggs. The Agricultural College recommends spraying at this time one-fourth of a pound of Paris green to fifty gallons of water; or, if you use the Bordeaux mixture, put the Paris green into that. Then we have the grape-vine caterpillar, about 1½ inches long, but I have never heard of their appearing in numbers large enough to do any great harm. During the summer, on the under side of the leaf, there may be found at certain times a small brown slug; they are hatched from the eggs of the steel blue beetle that made his appearance early in the spring. The thrip, that is so troublesome when the grape is grown under glass, will, in extreme dry weather, appear in large numbers upon the outdoor grape, and while we do not consider him a dangerous fellow, yet he does not add to the strength of the vine, and we welcome a good shower, as this will keep him in check. These, with the addition of the grape-berry moth, that as yet we have seen but very little of, comprises about all the insects that have been troublesome in my vineyard, unless we mention the Phylloxera, who is at work on the roots of nearly all grape vines; but our native grape, as a rule, is such a strong grower, that they do but little damage if the vine is kept in a good healthy growth; which in fact has much to do in assisting it to withstand the attacks of the different fungi, which of late years have been such a terror to the grape grower. My attention was first called to the Phylloxera some eight years ago, on the receipt of 600 Worden grape vines from T. S. Hubbard, of Fredonia, N. Y.—the roots were one complete mass of galls. He wrote me that it was not uncommon, and that the vine was such a strong grower that I would derive no harm from them; and yet it adds one more to the already too long list.

Fungus diseases. Here we have an entirely different order of things. Instead of animal preying upon vegetable, we have plant attacking plant, or parasites living upon their hosts. Those the most

common to the grape vine in New England are Peronospora and Anthracna. In my limited experience with these, and the little that I have been able to learn concerning them, I would gladly pass them by, but I should not then be giving you my full experience, for in the past four years I have lost more with fungus diseases than from all other causes since I commenced to grow the vine. Three years ago I commenced to spray the vines, using that year ammoniacal carbonate of copper, as directed by the department at Washington, but I did not understand what I was trying to do. I simply knew that I had the peronospora on the Delaware vines, and that they recommended spraying. I sprayed twice during the season, but the leaves nearly all dropped in August. For the past two years I have been at work under the directions of Professor Maynard, of the Agricultural College, whose timely words of advice have been of great value in assisting me to battle with these parasites; and while yet we are not satisfied with results, yet we feel that we are working in the right direction, and trust that ere long science will give us a remedy for these parasites that shall be as effective as Paris green has been for the insect pest. But we must not stop with spraying. I think that the leaves from the vines, and the fields joining the vineyard, should be burnt over, and thus destroy the winter spore; the posts, braces and vines should be washed early in the spring with a strong solution of sulphate of copper, or Bordeaux, full strength. And yet we feel that we know but little of these fungus diseases, except that they are increasing at an alarmingly rapid rate, and we must ever be on the alert, with our face turned to the foe.

26th January, A. D. 1893.

ESSAY

BY

GUSTAVUS A. CHENEY, OF WORCESTER.

Theme:—Historic Trees, and the Sylva of Worcester County.

Mr. President:

Trees have their attributes, peculiarities, traits and characteristics, which are as pronounced and distinguishing as those discerned in the great human family. Even as it is true that no two individuals, among all the inhabitants of the world, are precisely alike in every particular, so it is that of the countless millions of trees, wherever found, no two are the same in all respects. As the growth and expression of human beings, to a material extent, are influenced by local surroundings, thereby giving to persons of one locality traits peculiar to them alone, so it is that trees of one section assume an individuality, which marks them from their fellows. As God never repeats his creations in human life, neither does he in sylvan life. As some persons are born with grace and beauty, and retain these traits at every stage and to the end of life, so do they have their counterpart in the world's sylvan life, as instance the tulip tree, which at all periods of its life may be regarded as the personification of stateliness and form. Yet again, as the blockhead of the ninth grade later develops into the genius at college, so does the ungainly, ill-formed and backward tree in early life later develop a faultless shape, and outstrip its more promising companions in the vigor, luxuriance and abundance of its growth. The similarity and resemblance between human and sylvan life might be portrayed almost indefinitely, and as it continued the more marked and striking would be the analogy between the two.

Someone has said that a tree is the most beautiful object in nature. They might also have added, with the same degree of truth, that few

if any objects in inanimate life serve the purposes of humanity to so great an extent. But it often happens, as in our own land and time, that trees are such a commonplace thing and are so essential to our well-being and very existence even that we do not pause in a single thought of their economic value. As we never miss the water till the well runs dry, we will never realize how great and beneficent is the blessing of trees until we are in a section of the country where they are most in our thoughts because of their absence. Where trees exist to a considerable extent the temperature is more equable, the rainfall is more evenly distributed, and the ground retains its moisture for a longer time. Here in Worcester the winters are warmer and the summers cooler because of the trees planted along the streets. The health and well-being of every resident of this City is benefited and improved because of the work of the Parks-Commission in the planting of these trees, for every tree with its foliage is a guardian of the public health. The deadly carbonic acid gas with which the atmosphere of a city like Worcester is impregnated, is absorbed and destroyed by the leaves of trees. Indeed, so many and varied are the functions of trees, which directly or indirectly conserve to the health of mankind, that leaving aside all questions of sentiment, their planting and cultivation is to be commended. Looked at from a purely utilitarian point of view, and without considering in the least their value for ornamental purposes, the City of Worcester, in its corporate capacity, never expended its money to better advantage, nor in a manner from whence it has received better returns, than that invested in the 20,000 or more trees which line its streets. Never have the people of Worcester had an official board from whence it has received a greater favor, and to the membership of which, both past and present, they owe a greater debt of gratitude than that of the Parks-Commission. When the work of the men of this commission shall have assumed mature form, then there will be a generation that shall award to them their full meed of praise and reward, and the answer to the inquiry, "Where are their monuments?" will be "Look about you," and the reply will be as full of meaning and as significant as is that in regard to Sir Christopher Wren.

Thus it is, that in considering trees in their relation to the public weal, they serve another purpose than to beautify and embellish highway or park. So also in considering the forest growths of this entire county it is proper that their value be not wholly regarded from a commercial standpoint. The trees which cover the hillsides and clothe the valleys and dot the fields and intervales of Worcester

County, confer other wealth than that of money obtained by their sale. Rich in the extent and uniform distribution of its sylva, which is alike remarkable for its diversity, beauty, and comprehensiveness, the arborescent features of the county constitute one of its greatest gifts from nature and one of its grandest charms. No other area in the United States, of equal extent, has a sylva so varied nor at once so notable for vigor and luxuriance. In the southern limits of the county trees and shrubs, whose native habitat is in the States farther south, are of quite frequent occurrence. In the towns upon the New Hampshire line, the beautiful paper or canoe birch is occasionally found raising its columnar stem like a pillar of the whitest alabaster, and upon the summits and slopes of Mt. Wachusett are found trees and shrubs whose natural realm is the far north. Upon that cold, bleak ridge, or topographical backbone of Massachusetts, extending northeast from Rutland to Gardner, grow the white and black spruce, the balsam fir, and the American larch, not in rare instances, but in actual profusion. In some of the southern towns of the county the prostrate juniper attains a diameter of its spread of thirty feet, and a height of three feet. In certain localities in the same section of the county the red cedar or savin tree acquires a girth at the base of two and one-half feet, and a height of forty feet. In all sections of the country are swamps of varying areage, covered with growths of the white cedar, and so dense are these growths that the intensest rays of the most glaring sun cannot penetrate them. In Winchendon and towns adjoining is found the American mountain ash, a tree which I have never seen in the central or southern sections of the county. The native rhododendron, though rare, is found to my knowledge in three localities, and one of them is acres in extent, for it will be remembered that the rhododendron, like the azalea and laurel, is a social plant. In and upon the borders of swamps, near the Connecticut line, the lovely, sweet-scented *clethra ælnifolia* (sweet pepper bush), is more like a tree than a shrub. In Sterling and Lancaster are isolated growths of the true chestnut oak, which must not be confounded with the variety so commonly designated as such. The sumac, the beauty of whose foliage is so greatly admired by persons from places in which this shrub is a stranger, has attained in Worcester County a diameter of nine inches.

One of the most interesting localities in Worcester County, as regards its trees and shrubs, is Mt. Wachusett. Visiting for the purpose of studying its sylva is like going into another country, into another clime, as one really does. Of the five hundred and fifty

acres which constitute the area of Mt. Wachusett, practically the entire surface is covered with a dense and impenetrable growth of trees and shrubs, and these include almost every species and variety comprised in the sylva of Worcester County. This great forest expanse is of special interest and value, because it is an original or primeval growth, and as such is the only one of any considerable extent in the county. Here one can see trees in every stage of existence, from the tiny seedling to the aged oak and hemlock that completed their growth above a century ago. Here associated together are the oaks and maples in variety, the American linden or basswood, the yellow and black birches, the elm, butternut, chestnut and walnuts in variety, the white and black ash, the white pine and hemlock, the beech, spruce, ironwood, dogwood *(cornus florida)*, sassafras, poplars in variety, the American spruce, and the hornbeam or tupelo.

Among the shrubs and plants found upon the summit of Mt. Wachusett, are those common only to mountainous situations. Pleasingly conspicuous among these are the striped and mountain maples, both of which grow in profusion along the mountain carriage road, and fringe the forest at its base. The striped maple *(A. striatum)*, as seen upon Mt. Wachusett, is not dissimilar in color and form to the dwarf Japanese maples, now so freely and advantageously used in lawn and garden decorations. It grows from eight to twelve feet in height. It has a smooth bark that is exquisite in the beauty of its green and black stripes. Its large, yellowish-green flowers are succeeded by long, pendulous clusters of seeds or fruit, having pale green wings, and the clusters are in such abundance as to add to the attractiveness of the tree.

The mountain maple is of dwarfer habit than the preceding, and it has a light gray bark. It flowers profusely, and its pendulous clusters of fruit are furnished with wings of a purplish tinge.

Another shrub, which embellishes the mountain roadside from base to summit, is the panicled elder *(sambucus pubens)*, and its presence in such abundance is all the more singular as it is rare in New England, and not common anywhere except it be on the slopes of the Alleghany Mountains. As seen on Mt. Wachusett it is a shrub, oftentimes ten and even twelve feet in height, and its decidedly ornamental appearance is produced by large, quite compact panicles of bright scarlet berries. The panicles are borne at the terminals of the shrub, and the dazzling hue of their berries gives them the appearance of so many blazing torches of fire.

The forest which clothes the area of Mt. Wachusett has an infinite

charm in its picturesqueness, and the individual tree contributing most to this end is the hemlock. Life on the mountain-side seems congenial to it, for it stands erect through storm and wind, and when death comes at last it occupies its upright position for decades and generations. It is the prevailing opinion with Princeton people that there are hemlock trees on the mountain, still erect, that have been dead for 100 years.

Not the least of the many pleasant experiences of the searcher after large or notable trees are the "finds" he makes when the least expected. One who makes a practical study of forestry does not have to serve a long apprenticeship, nor become an adept in arborculture, before receiving returns in happy surprises as the results of his investigations and observations. He, on the very threshold of his pursuits in this line, begins to discern new features and characteristics in trees, which heretofore were wholly unobserved and unknown to him, although always in existence. So also if he sets heart and mind upon finding some especially large tree, of some particular species or variety, it oftenest happens that he finds this when least expected, and in a wholly unlooked for place. During the summer and fall of 1891, I was particularly desirous of finding some sassafras tree of abnormal size, for as you know, the sassafras is rarely more than a shrub. The summer and autumn in question came and went, and my search for a big sassafras tree was without avail. Winter came, and one morning as I was walking along Elm Street I happened to glance aside, and there, not three feet from the sidewalk, I found the long-looked for object of my search; the largest sassafras tree I had ever seen. A measurement of this tree showed its height to be forty-seven feet, and its girth at a foot from the ground four feet. The tree is on the estate No. 25 Elm Street. One late spring day, while strolling along a highway leading from Sturbridge to Brookfield, I cast my eye over an adjoining field and saw a great mass of white flowers peering above the surrounding alders. From my position in the road the flowers resembled those of the dogwood (I mean the *cornus florida*, not the poison sumac), but as the apparent size of the tree was much greater than any dogwood I had ever seen, I quickly concluded that it could not be this tree. However, a visit to the tree showed that it was a genuine dogwood, and a surprising "find." Its girth at two feet from the ground was four feet, eight inches, and its approximate height between thirty-five and forty feet.

Near a body of stagnant water, commonly denominated as a mud

hole, in the town of Charlton, there stands a thickly branched pepperidge, or hornbeam tree, both of which names are applied to it, but which is more correctly known as the tupelo tree. At five feet from the ground it has a circumference of nine feet, five inches, and a height of seventy-three feet.

A person traversing the length and breadth of Worcester County is quick to discover the contrasts in the sylva of its different sections. The species and varieties of trees which constitute the sylva of Worcester County are so many and varied as to furnish, in their natures and peculiarities, many pleasing contrasts. The existence of so much variation within so relatively small an area as is described by the territorial limits of the county, shows how great is the adaptability of its soil and climate to tree growth. But it is in the towns of the northern section of the county, and especially those along the New Hampshire border, that one finds this variation in the composition of the county's sylva at its best, and in the most striking contrasts.

In the woods of the southern tier of towns the canoe birch is not found, but it is in the woods about Winchendon. There it is associated with the hemlock, ash, beech, chestnut, walnut, and the oak. Unlike its congener, the white birch, it does not grow in clumps, but stands alone. The northern borders of Worcester County are practically the southern limits of the canoe or paper birch.

Another tree quite common to the towns in northern Worcester County, but which is an entire stranger to the towns along the Connecticut and Rhode Island lines, is the American larch. Its southernmost habitat in Worcester County, so far as the writer knows, is Spencer, where it is found in a few instances on cold hillsides. The tree becomes more abundant in Rutland, and still more so in Hubbardston, yet is rarely seen in Princeton. In Gardner it is quite numerous, and in the northern tier of towns it is still more plentiful. A common name of this tree is hackmatack, and the people in some, if not in all, of the towns in the northern portion of the county call it the juniper. The juniper known to the central and southern sections of the county is a low-growing and wide-spreading shrub, and this is correct in its name.

There are specimens of the native larch in Hubbardston twenty inches in diameter at three or four feet from the ground, and from forty-five to fifty feet in height. These larger trees, however, have not much of beauty of form and growth to commend them, unless they have been free from interference by other trees. But the

younger trees, of from fifteen to twenty-five feet in height, are oftentimes not much inferior in beauty of form or foliage to the Scotch or European larch. The fasciculated leaves of the tree of the last named sizes are denser, of a livelier hue, and more pendant, than are those of the first named.

The balsam fir, also a total stranger to the central and southern towns of the county, is frequently met with in the fields and woods of the northern county towns. It is a steeple-shaped tree, and so dull and stiff as to be unattractive. As found in Worcester County, this tree is a prolific producer of the light amber-colored liquid known in the American pharmacopæas as Canada balsam. The trunks and large branches are literally blistered with sacs or reservoirs, which are filled with the liquid. This is secreted in these receptacles, and does not flow from the wood, as does the sap of the maple. When the sacs are punctured the balsam flows in about the consistency of strained honey. A teaspoonful is often taken from a single reservoir.

Almost every town in Worcester County has one or more trees, which, because of past associations, or else for great and unusual size, may be classed as historic and notable. Some of these trees were planted by the hands of the pioneer settlers, and yet living, keep in perpetual remembrance the name and memory of men long since passed away. In learning the history of many of these patriarchal trees I have been surprised at the number of men there were among the earlier settlers, who made successful effort to beautify the home grounds by the planting of trees. The elm was the favorite shade or ornamental tree in colonial times, simply for the reason, if none other, that the same preference was given it in England, from whence the Puritan or his immediate ancestors had come. The material condition of men and communities, and the measure of their intelligence, inclinations, tastes and dispositions, as they existed a century and a half ago, or more or less, is told by these aged trees just as forcibly and truthfully as they mark the men and communities of to-day. The selfish, immoral, and evil-disposed man, did not plant trees in the past, neither does he in the present. It is the man and the community with a disposition to live and act for the future and for posterity, as well as for themselves, that plant and preserve trees and forests. But did you ever observe that it is the man and the community, which do the most for posterity, that receive the best there is in life in their own day and generation?

The earliest instance of concerted action in the planting of trees by a community, that I have yet learned of, was in Brookfield in

1783. Its main thoroughfare is lined upon either side with rows of elms, extending nearly three miles east and west, and these elms commemorate the treaty of peace between Great Britain and the United States, which terminated the Revolutionary war. Their planting is the first work of this nature performed by the concerted action of a whole neighborhood, of which I can learn, for it is told that well-nigh the whole population helped in the work of planting the trees.

The thoroughfare, upon either side of which are these elms, was, at the time of their planting, a portion of the turnpike or stage road leading from Boston to Albany, and was laid out six rods, or 100 feet in width. That portion of it passing through Brookfield is, by act of the town, preserved intact.

The elm trees which line this highway extend from near the village of East Brookfield westward to within less than a half mile of the West Brookfield town line. Their termination on the west is on the summit of Stone's hill, and directly in front of the present residence of Mr. Warren H. Hamilton, which occupies the site of the parsonage where lived one of the earlier ministers in Brookfield. There is a tradition, and a flimsy one at its best, that the reason why the trees were not planted farther west along the road and beyond the parsonage, was because all hands engaged in the work of planting the trees were, after those in front of the parsonage had been set, invited by the minister of that day to take a mug of flip, and that this was accepted so often as to unfit every one for further service. The fact that West Brookfield was then a part of Brookfield, and in consequence no town line existed, is quite ample evidence that the original intention was to go no farther than the summit of the hill.

The men who superintended the planting of the trees were Colonel Oliver Crosby and Mr. Gershom Jennings. A daughter of the second named, Mrs. Marcia Basslington, is now living at Brookfield at the age of 83 years. She remembers events connected with the planting of the trees told to her by her father.

Nearly all the elms planted along the great road have assumed the sheaf form,—that is, they resemble in appearance a sheaf of grain, but as might be expected among so many, about every type of elm is represented. As is typical of the sheaf-formed elm, most of the trees have tall, straight stems, and with but slightly overhanging tops. Practically, all are characterized by a great height, and some among them have an immense spread. I noticed none less than ten feet in girth at five feet, and they vary from this up to fifteen feet.

About one-half mile south of the railroad station, in the centre of

the village of Oxford, is the locality where, 200 years ago, a colony of French Protestant refugees, called Huguenots, founded a settlement, which after an existence of about ten years was abandoned because of molestations from the Indians.

It was along the banks of a brook, and in its near vicinity, that most of the Huguenot dwellings were erected, and in the vicinity of the village there exists to-day three white oak trees which, from the time of the Huguenot settlers, have been associated with their names. Each of the trio shows evidence of a venerable age, yet each has vigor and life enough to produce a quite heavy foliage and large crops of acorns. Locally the trees are known as the "Huguenot oaks," and there is not a shadow of doubt but that they were contemporaneous with the heroic band of colonists. Every feature and condition of the trees are indicative of great age. From the time of the English settlement of the town, in 1713, the oaks have been alluded to because of their location and connection with the Huguenot village, and further substantiation of their probable great age is furnished by the expressed opinion of the late Prof. Agassiz, regarding a group of oak trees, known as the "Waverly oaks," near Boston, which he believed to be 800 years old. As to size, the Oxford oaks are but little inferior to those at Waverly. Aged people in the town say that the trees were apparently the same in the time of their earliest remembrance as they are to-day. The trunks of all three trees are freely covered with knurls and burls, ranging in size from that of a hen's egg to a half-peck measure.

It is said that the oak tree is typical of strength, sturdiness, constancy and steadfastness, and the trio in question are unsurpassed specimens of the genuine New England white oak. Their branches are contorted, and their many sprayed twigs are as variously formed as the larger limbs. The bark of each has a gray ashen hue, and each branches quite near to the ground.

The first of the trio stands within the limits of Main Street, which at this point is nearly 150 feet in width, and directly in front of a residence that occupies the site of a house built by Richard Moore, who was one of the original English settlers, and because of this has an added interest other than that given by its connection with the Huguenots. At one foot from the ground the tree girths 15 feet and 14 inches; at three feet, 12 feet and 9 inches, and at five feet, 11 feet and 9 inches. This tree has very numerous branches, which but slightly diverge from the horizontal, yet possess the characteristic angles, bends and knees, and have a great spread in all directions.

The diameter of its spread from north to south is eighty feet, and it will not vary very much from this from east to west.

A short distance south of the first described tree, and at the junction of Main Street and Huguenot Avenue, is the second of the trio. This tree has a rugged and picturesque appearance, as if it had withstood the whacks and blows from the storms of centuries. Its body is studded with welts and burls, and its branches are twisted and contorted, yet withal it has the aspect of a victor. It is the smallest of the trio, measuring at five feet from the ground 9 feet and 6 inches. Its situation is only three or four rods west of the Norwich and Worcester Railroad, and it is within a stone's throw of the site of the principal of the two mills built by the Huguenots, and the centre of their settlement.

Pursuing Huguenot Avenue for a few rods one comes to the third, and largest, of this trio of oaks. It is located near the residence of Mr. Ebenezer Humphrey, the fourth in descent from the original settler of that name to occupy the same farm. This tree at three feet from the ground has a girth of 16 feet and 2 inches, and at five feet 14 feet and 5 inches. It is 75 feet in height, and an immense amount of wood is represented in its numerous branches. On the north and northwest sides of the tree the branches have been shortened by the elements, but upon the south they extend for a distance of fifty feet.

A little distance beyond this tree the Huguenots built their church, and still farther beyond is the location of the fort. Within full view of the tree is an elevation known since the days of Huguenots as Bondet Hill, so named in honor of their pastor. Over the summit of this hill passed the famous Indian highway known as the Connecticut path, and to the northeast of this was another trail called the Quaboag path, which led to the Brookfields.

Winchendon has a stately and wide-spreading elm, which commemorates the memory of the first settled minister of the town, and it is the only monument to his name, for he sleeps in an unknown grave in the little cemetery, but a few rods distant from the tree which he planted upon one of the days between 1762 and 1768. He planted it in the yard of his modest and primitive residence, which was valued after his death, in 1768, at six pounds sterling, or less than $30.

The tree is located near the old Common, in that part of Winchendon which was the first to be settled, and fully a mile and a half south of the present business centre. It occupies the broad summit of a hill, from which a view is had of a large section of Worcester County,

and across the country to the north are seen towns in southern New Hampshire, and eighteen miles away, in full view from base to summit, is Mt. Monadnock. The little village has to-day about the same number of dwelling-houses that it may have had 75 or 100 years ago, and its present church edifice is very near the site of the first meeting-house in Winchendon. But the character of the life has changed materially since those earlier days. Then there were two lawyers who practised their profession in the settlement of a dozen or so families, and tradition says at the time there was incessant quarrelling, turmoil and discord among the families of the neighborhood, and ever since the place has gone by the name of Harmony Hill. A physician also practised his profession here for years, and business must have been good for him as long as the lawyers remained.

Two miles or so south of the railroad station in Brookfield, and within the limits of the road leading to the prim and thrifty little neighborhood, known to the people of southwestern Worcester County as Rice's Corner, is a chestnut tree that is an object of exceeding interest, because of the enormous proportions of its trunk. It is in one of those stretches of grass land that border the roadside, near the foot of a hill and close to a stone wall, that the great chestnut stands, and for generations it has excited the curiosity and prompted the admiration of the people. It has no exposed roots nor consequent bulge at the base, and it rises straight into the air to a height of twelve feet or more before a branch appears. At six feet the tree's girth is 18 feet and 5 inches, at three feet it has a girth of 20 feet and 5 inches, and at a foot and a half from the ground its circumference is 23 feet. In connection with this last statement it should be remembered that this measurement is in the clear of the trunk, and does not include any bulge at the base by protruding roots.

As the tree exists to-day, its crown consists of short, stubbed branches, merely laterals put forth by remnants of huge branches in a final effort to retain a hold on life. However, it is interesting to note that these laterals produced a quite abundant crop of fruit the past season, one only of several hundreds that the tree may possibly have produced. What may be the age of this tree can only be conjectured, but stumps of chestnut trees of a less diameter than this have counted 400 annular spaces, and thus upon this basis this particular tree must be well nigh 500 years old. The fact that it was not cut down when the road was made is indicative of great size more than one hundred years ago.

Rice's Corner is the birthplace of the popular story writer, Mrs. Mary J. Holmes, and in one of her published works, "Homestead on the Hillside," if I mistake not, she makes reference to the big tree.

Scarcely an eighth of a mile from the tree, by the roadside, are three other chestnut trees, and each one of these approaches in size the one described. This trio of great trees stands in a field to the west of the highway, that is half pasture and half woodland, and the best preserved of the three is easily seen from the road. This tree girths at three feet from the ground 16 feet and 5 inches, and at one foot 19 feet and 7 inches. Its trunk is clear of limbs for twelve feet.

The second of the trio girths at three feet 17 feet and 4 inches, and at one foot 19 feet and 7 inches. Both of the trio mentioned have straight trunks, and though their branches are now short, knurled and scraggly, there are abundant evidences that when they were in their prime they must have borne immense tops.

The last of the trio comes quite near in size to the first of the "big four" herein described, for at four feet it has a circumference of 17 feet and 10 inches, and at two feet its girth is 21 feet and 2 inches.

One of this trio, and the oldest one of all, stands on the western declivity of a hill, and its shorn branches appear just above a growth of white birches. Its bark is a decided curiosity, for it is deeply and profusely furrowed and so spiral as to extend from the base to the point of furcation, full half-way round the tree. One of the furrows, as measured, shows a depth of seven inches, and the ridge it forms is five inches across. The bark of the greater branches is also spiral, and altogether the tree has a rare and singular appearance.

Each one of these four trees will give a saw log of twelve feet, which will make on an average, allowing the trunks to be sound, which they are not, of 3,000 feet,—a total of 12,000 feet.

The first mentioned of these four trees is the largest I have yet seen or heard of in Worcester County, except an elm in Lancaster.

The town of Westborough is rich in the number of shade trees that line its public streets and roads; and its arboreal wealth is, to a great extent, of a mature nature, as the planting of shade trees along its streets is not a custom of comparative recent adoption, as is the case with many Worcester County villages and towns.

Conspicuous for their size and numbers are stately white ashes, which appear to live admirably in Westborough soil.

From the number of different kinds of trees in the town one would judge that the first concerted or general work in street tree-planting was after the almost universal practice of setting elms out exclusively, and before the idea became so prevalent that nothing but a maple is suitable for this work. This happy result, probably, had its source in the work of Mr. John Fayerweather, who came to Westborough about ninety years ago and settled upon the farm now, and for the past twenty-five years, known as the Whitney place. This estate is located on Main Street, and about a half-mile south of the railroad station. Mr. Fayerweather was a man, extremely rare in his day and generation, who believed in tree planting, and he planted them by the score and hundreds with the result that to-day the Whitney place is one of the finest estates in Worcester County, as regards its arboreal features. It not only has a great number of trees, but these are in extensive variety. Along the street are, among others, several rock maples, that for girth of trunk and amplitude of top or crown are of gigantic size, and as notable for their beauty and symmetry as for their size. The largest of these maples girths at four feet from the ground 11 feet and 2 inches. At six feet above its roots the tree expands into a capital or table, which has a circumference of 14 feet and 8 inches. From this table-like growth the tree divides into some half-dozen branches, either one of which constitute a great tree in itself. These in turn send out numerous branches, which together form the top of an ideal maple tree. The height of this tree is eighty feet. The diameter of the spread of its branches, from east to west, is eighty-two feet. This has been diminished by the removal of certain branches on the west, or Main Street side of the tree, for the benefit of travel. Three other of these maples girth respectively 8 feet and 9 inches, 8 feet and 4 inches, and 7 feet and 8 inches. The branches of these trees, like the first named, are many, and ramify in a manner to form a magnificent top. Again, the height of each is remarkable.

The balms of Gilead and other poplar trees of this estate that were planted by Mr. Fayerweather, include five that girth at three feet from the ground as follows: 7 feet, 5 inches; 8 feet, 1 inch; 8 feet, 1 inch; 8 feet, 9 inches, and 7 feet, 8 inches. A sycamore maple, a catalpa, a weeping willow, numerous linden and ailanthus trees, all of great size, are planted upon the grounds of this estate, and all were planted by Mr. John Fayerweather seventy-five years ago.

In the easterly part of Westborough is the splendid estate owned and occupied by Rev. John D. Potter, widely known as a preacher

and evangelist. Close by the stately and pleasing residence is a monster elm. It is an undoubted relic of the original forest, for its great proportions portend an age greater than is the settlement of the town. At five feet from the ground it has a circumference of 14 feet and 7 inches. This tree exhibits the rare trait of a tree's trunk enlarging towards the place of furcation, instead of the inverse order. Thus, at three feet from the ground its girth is 14 feet and 3 inches, four inches less than at five feet. At seven feet from the ground the tree attains a circumference of just sixteen feet, or 2 feet, 7 inches greater than at five feet. Just above this last girth the tree forks into thirteen branches, which with their minor branches form a broad spreading top. The diameter of this, from northwest to southwest, is 107 feet, a circumference of 321 feet. The tree shows little or no evidence that it is past its prime.

A black walnut tree on Green Hill farm, in Worcester, is finely preserved, and shows not a trace of old age. Its every twig is full of life and vigor, and from its appearance one would not suspect that it had weathered the storms and winds of a century, and the fact that it has in its high location, is quite ample proof that the soil and climate of Worcester County are congenial to the requirements of the black walnut. The girth of the tree at two feet from the ground is 8 feet and 8 inches, and at five feet it is 7 feet and 10 inches. Thus it may be seen that its trunk maintains a quite uniform size, and it is cylindric in form.

The tree branches at twelve feet, and the first of these is forty feet in length. Several of the branches would make averaged size saw logs, and in the aggregate the tree would produce four hundred feet of lumber. It produces large crops of walnuts every year, which in the green state are very pungent, and so also are the young leaves. As an ornamental tree this particular one is grand. It is seventy-five feet high, with a full and well-rounded top. The trunk and limbs are but slightly furrowed, and its bark, in this respect, is not dissimilar to the white ash.

On the road leading from West Boylston to Clinton, and ten minutes walk from its post-office, is the locality known as French Hill, and a short walk farther along the road brings one to a white oak tree that is alike great in its age and great in its proportions. Like most white oaks it has no bulge at its roots, and one foot above the ground it girths 19 feet and 6 inches. At two feet from the ground it has a circumference of 17 feet and 2 inches, and at four feet its circumference is 15 feet and 6 inches. The undoubted age of this

monarch of the forest is not less than six hundred years, and as oaks live and survive it is more than probable that it is quite seven hundred years old. From the time of the first settlement in West Boylston the tree has been called the "Old Oak." Aged citizens of the town say that the tree is the same in appearance to-day as it was sixty or seventy years ago, and in all probability the tree completed its growth full two centuries ago. The branches on the northerly side have been shortened by old age and the elements, but the diameter of the spread of its branches from east to west is eighty feet, while three of its branches extending south are forty-eight feet from the centre of the tree bole. Its height is from sixty-five to seventy feet, and the trunk forks at twelve feet. The land upon which this tree stands was once a part of the estate of Major Ezra Beaman, a patriot of the Revolution, and in his time the wealthiest and most influential man in his section of the county. His regard for trees was characteristic, and a tradition regarding himself and the old oak tree is frequently told in West Boylston. It is in effect that Major Beaman's love for the tree was so great, and so earnestly desired its preservation, that he filled the trunk with wrought-iron nails that they might turn the edge of any destroying axe. The tradition is accepted as the truth by some, but it probably had its origin in some little circumstance or incident which served to interest him in the tree.

Major Beaman has been dead just eighty-one years, and he sleeps in the little family burying-ground directly opposite the old oak, whose branches stretch across the road and almost to the grave of its preserver, and thus in all these eighty-one years it has sheltered it from the biting winds of winter and cast its shade above it in the midsummer sun. It is a happy and beautiful thought that these two veterans, whose lives were once so intimately interwoven, are not now wholly separated in death.

Just a minute's walk from the West Boylston post-office, and on the above named road to Clinton, is the Major Ezra Beaman place. On the opposite side of the street from the estate is a clump of buttonwood, plane, or sycamore trees, and two among these are of enormous size. The larger of the two was planted in 1748, and there is ample substantiation of the fact, by Ezra Beaman when he was twelve years old. This gives its age, reckoning from the date of its planting, as 144 years. The trunk or stem ascends straight into the air to a height exceeding 100 feet, and does not fork at all, but its main branches, which are only four in number, are in the strictest sense laterals. The first of these, a huge uplifted arm, shoots from

the tree at ten feet above the ground, and has a girth of ten feet, and alone with its belongings forms a really big tree.

This giant buttonwood, at two feet from the ground, has a girth of 18 feet; at four feet it is 16 feet and 5 inches, and at five feet it is 15 feet and 8 inches. The lesser of this brace of buttonwoods is remarkable for the uniform size of its trunk, its height, and for its expansive top. For twenty-two feet the trunk is without a limb, and it is as round as if fashioned in a turning lathe. The taper of this in one foot is only one inch in a foot of its diameter. Thus at three feet from the ground the tree girths 13 feet, 1 inch, and at four feet its girth is just 13 feet, while at six feet above the ground it is 12 feet and 10 inches, thus again showing a declension or tapering of only one-third of an inch to the foot of its diameter. This tree is ninety feet high, and is handsomely furnished with branches and terminals.

On the southerly slope of the gap between Mt. Wachusett and Pine Hill is a veteran quartette of red oaks. They are in full view from the Mountain House, and ten minutes walk from it. Four trees, whose trunks would make a greater or better amount of lumber, it would be difficult to find in any locality. Theirs must be a long and interesting history, but in each instance it is nearing the end, for the hand of death is laid upon them and they are dying by inches from the top downward. Their careers have been tempestuous ones, for they stand in the direct, cold, and constant northwest wind, as it comes full blast from the mountain. That they have attained to so great a stature, and have lived to so great an age, shows at least how natural it is for trees to grow in Worcester County, under the most adverse circumstances. A curious provision of Nature is noticeable in the growth of the oaks, and all other trees, in the shadow of Mt. Wachusett. This is an immense expansion of trunk at the ground, thus forming a powerful brace against the wind. Not far distant from the oaks is a walnut tree, with its entire top twisted and tangled into a confused whorl. But the tree holds its position because of its self-furnished braces. Its trunk and base form a perfect druggist's pestle, and the change from the pestle proper to handle is as abrupt, and as great in one as in the other. There are three chestnut trees in the near vicinity of the oaks, every one of which girths twenty feet at the base, but taper at four and five feet above to fifteen feet in circumference. This singular and unusual expansion at the base of the trees illustrates how Nature adapts itself to the exigencies of the situation. Of the four oaks constituting the quartette, one has a

circumference of fifteen feet five feet above the ground. It has a trunk twenty feet in length, without a limb or flaw of any description. The second tree is the tallest of the group, and has a trunk of thirty-five feet without a limb. At three feet it girths 10 feet and 7 inches. Above this point there is no perceptible variation in the size of the trunk up to the place of furcation. The third tree has a trunk of twenty-five feet, and at four feet from the ground it measures twelve feet around.

Fifty years ago this tree was struck by lightning. The bolt mortised the tree from the first branch down to the ground. The mortise is a foot in depth, fifteen inches wide, and as straight as a plumb line. The bolt was seen to strike the tree by Mr. Phineas Gregory, father of the present Phineas E., of Princeton. The fourth tree is the largest of the quartette. It has a splendidly-fashioned trunk of twenty feet without a limb. At four feet from the ground it girths 15 feet and 4 inches.

In my rambles about Worcester County searching for big trees I have found not a few which, at some time, have been struck by lightning, which in its destructive work mortised the south side of the trunk in precisely the same manner as in the oak which I have just mentioned. An instance of this kind may be seen on a white ash tree near the residence of Mr. Gates, on Pleasant Street, beyond June. It would be interesting to know what influences the lightning to strike in that particular part of the tree, and to mortise it in the manner described.

Certain among the communities in Worcester County contain introduced trees, which have gained remarkable proportions. On the grounds of Mrs. Persis S. Kimball, in Brookfield, there is a horse chestnut which was planted early in the century by a Major Cheney Reed. Aged persons in Brookfield have told that the tree was for several years the only one of its species in the town, and it was then an object of special interest and curiosity, and now the sum of its years and the associations they have brought, together with its great size, make it an object of keenest interest with the present generation. A singular freak of nature is seen in the growth of this tree, as the circumference of its trunk is greater at six feet than it is at two feet from the ground. At this last-named height the tree girths 11 feet and 6 inches; at four feet from the ground its girth is 11 feet and 11 inches, or five inches larger than the girth at two feet, and at six feet from the ground it has a girth of 12 feet and 9 inches. Mrs. Kimball, who has owned the tree for fifty years, says that the past season

the florescence of the tree was more beautiful than ever, freighted as it was with countless racemes of blossoms.

On the opposite side of the street is the largest white ash tree I have yet found in Worcester County. Two feet from the ground its girth is 15 feet and 10 inches, and at four feet exactly 14 feet. As for size it is a rarity among trees of any specie, but it is exceedingly so among white ashes, as this tree in Massachusetts rarely obtains a circumference exceeding ten feet. Captain Samuel W. Hastings, the son of a soldier of the Revolutionary War, told me that the tree was as large, apparently, when he was a boy as it is at present, and at the time of his telling me this he was in his 88th year.

Located on Oak Street, in the town of Grafton, near the residence of Mr. Henry F. Wing, is a white oak tree, whose branches now, as they doubtless did a hundred years ago, over-arch the highway and reach well-nigh to the house. Like all white oaks that grow in the open, this tree has a comparatively short stem, upon which is sustained a broad and many-branched top. This last, in this instance, is very uniform in its spread. The widest diameter denoted by the spread of its branches is 105 feet. Clear above the bulge of the roots it has a circumference of exactly 18 feet.

The Mason elm in Shrewsbury, which is the most remarkable instance of the willow tree type of elm I have ever seen, has a diameter of its spread of 122 feet.

A willow tree on the grounds of Mr. Arthur Taft, in Uxbridge, has five branches which girth as follows: 10 feet and 7 inches, 9 feet and 5 inches, 7 feet and 5 inches, while the fourth and fifth have precisely the same circumference, 7 feet and 8 inches. The aggregate of their circumferences is 42 feet and 9 inches, and a diameter of 14 feet.

On Brigham Hill, in the town of Grafton, is an elm tree that was planted in 1746, and consequently is 147 years old. In the clear of the trunk the tree girths 17 feet.

In the town of Warren, on the farm of Rev. D. Olin Clark, is an elm tree of decided individuality, even for an elm. At five feet from the ground the tree girths 16 feet and 3 inches, the diameter of its spread from north to south is 115 feet and 4 inches, and from east to west it is 96 feet and 5 inches. The stem of the tree completely loses its identity at twelve feet from the ground, and at this point nearly four branches start together to form its immense top, which is so dense as to preclude the penetration of the sunlight in the growing season.

The largest elm tree in Worcester County, and in Massachusetts for that matter, is distant only about one-fourth of a mile east from the railroad station in the centre village of Lancaster. Its great dome-shaped top, reaching to an altitude of ninety-six feet, is discernible from the railroad station, and the visitor in Lancaster is all aglow with anticipation as he approaches the tree over the highway. Memories of other great elms he has seen and measured are recalled, and remembering how impressing was the greatness of these he instinctively prepares himself for a yet deeper impression as he shall view in its entirety this greatest of Massachusetts elms. But in this respect he is destined to disappointment, for as more and more the tree is disclosed to sight, less does one realize that it is of such great proportions, but when once a journey round the tree begins one perceives and comprehends that it is a giant among its fellows. This great tree stands near a lane or cart road, called "Lovers' Lane," and is an historic thoroughfare, as it has been used for public purposes since 1660, or for 232 years.

Standing near the base of the tree, and peering into its branches, one then, as nowhere else, perceives the great height of the tree, and again walking across the diameter of its spread the breadth and compass of its great branches and their terminals is comprehended. The greatest diameter of its spread is 117 feet, and five feet above the ground the tree girths 24 feet and 4 inches. Forty-seven years ago Ralph Waldo Emerson measured the tree, and recorded that two feet above all bulging of the roots it was 20 feet and 9 inches in circumference. The existing dimensions of the tree, when compared by the record made by Emerson, shows a fine growth in these past forty-seven years, although not so marked as was anticipated by a boy of ten or eleven years, whom I found working in a near-by field on a recent visit to the tree. When within 100 feet or so of the tree I asked the boy its circumference, and he replied that he thought it was 26 feet, because last summer it was 25 feet.

Not only has Lancaster a great number of trees along its streets and roads, and many of notable dimensions, but its trees also, as a rule, are characterized by a beauty of form and growth that is rare and remarkable. On the road leading to Harvard I found an elm which, five feet from the ground, had a girth of 17 feet, 9 inches. Another near the Wilder residence, at five feet, has a circumference of 17 feet and 2 inches. Specially noticeable among the elms of Lancaster are those of the feathered type. These may be seen dot-

ting the intervales of the Nashua valley with trunks and branches thickly tufted with minute branchlets.

Of course in a paper for an occasion like this only a very partial enumeration of the great and notable trees I have found in Worcester County can be made. As I have said, almost every town has one or more trees whose characteristics or associations give to it a special interest.

2d February, A. D. 1893.

ESSAY

BY

MRS. FANNIE E. POTTER, OF WORCESTER.

Theme:—"Round About Our Homes."

"Round About Our Homes" is a broad and moving subject. It is broad enough to admit us into the interior of our houses, and to allow us to view them from the outside; but I purpose in this essay to leave our houses unmolested, and make some notes by the way as we draw near to and go round about them. In these times, when so many people know how to beautify their home grounds, it is almost presumption for any one to undertake to instruct others in an art which they understand so well themselves. Every homestead, like every person, has its own characteristics, which requires distinctive treatment in its outward adornments. One place is usually larger or smaller than its neighboring estates, its location different, the trees and buildings thereon are also situated differently, and the grade of the soil is frequently so dissimilar that what would be a proper arrangement of walks, flowers and shrubs in it would be a very poor arrangement in another place. This difference in location and individual tastes of the owners of different estates serves the good purpose of making a variety in our street scenery.

Then I can only offer a few suggestions as to the general treatment of our home grounds which, in any event, are only to be considered general principles, to be applied in the absence of better ideas. I make no claim to special knowledge in this matter, and these suggestions only represent my present views on the subject, and I fear they are amateurish and incorrect in many particulars. However, they are like the advice of a Congregational Council, in that they are expected to have only so much force as there is reason in them; and therefore, with this understanding, and reserving to myself the right

to change my views at any time in the future, I will proceed to the suggestions.

When we go round about our homes, and draw near to them, the first thing we come to is the boundary line. It has been customary from the very earliest times to mark the boundary line by monuments of some kind.

The law of Moses forbade a man to remove his neighbor's landmark. In Holland a ditch represents the boundary, in England the hedge, in Australia and the West a barbed-wire fence, and in New England a stone wall or a picket fence. Much has been said of late years about the unnecessary expense and unsightliness of fences. In some villages and rural districts a regular crusade has been made against fences, and especially against road fences. In the Connecticut Valley one may frequently ride on the highways for many miles without seeing a fence or hedge on either side of the road. The land is cultivated, and the crops grow close up to the travelled part of the road.

To one unaccustomed to this style of road fencing and cultivation, he feels, as he rides along, that he is passing through some large private estate and expects, at every turn, to come in sight of the owner's residence.

In the village of Williamstown there is not a fence to be seen in any direction. All the buildings seem to have been set down in a large park, and the effect is beautiful in the extreme. But fences, like some other things, look well when they are appropriately placed, while their absence improves the prospect in places where they are not needed. In Williamstown, where there are acres of yard-room around every house, and children and dogs are scarce, fencing would be out of place. When the yards are small, and children and dogs are numerous and not always well-behaved, a fence of some kind around one's premises is necessary to preserve flowers, and to give the secluded feeling requisite to quiet home-life. Then let us not be scared out of our fences by the accusation that with them we are barricading our homes and shutting ourselves off from touch with our fellow-men. A home ought to be private and secluded enough to give its inmates sweet peace and quietude, and freedom from the gaze of every passer-by, and even from the neighbors, though they be the best of friends. I have no sympathy with the feeling that would have its family hearth and dining-room table always in sight of the public eye. I rather prefer the Englishman's love of seclusion for his homestead, which causes him to set his house somewhat back from

the public street, and to hide it with trees and hedges. As far back as Chaucer's time, before his house

> "The hedge was thick as is a castle wall,
> So that who list without to stand or go,
> Though he would all the day pry to and fro
> He could not see if there were any Wight within or no."

My advice then is, let us be sensible and independent in this matter, and be governed by our individual tastes and wants, and adapt our fences to the estates we occupy. Let all ugly fences and hedges go. Let all fences and hedges go when they are not needed either for looks or seclusion; but let us not tear down handsome fences or picturesque stone walls or hedges if, thereby, we shall be inconvenienced and the appearance of our homes not improved. After the boundary line is passed, and the dominion of the estate is reached, we are face to face with the task of improvement or injury, for it does not follow, as a matter of course, that all the changes we make upon our grounds are betterments, either in appearance or utility. Many a place, charming in its quiet beauty and repose, has been spoiled by some new owner with a long purse and bad taste. In the place of green grass, useful fruit trees, and native shade trees, he arranges a combination of artificial mounds and hillocks, trellises and pagodas, fanciful trees and flowers, curved grasses and ornamental walks, that gives the once beautiful premises a cluttered-up and made-to-order appearance, that is anything but attractive to the eye of taste.

On the other hand, many a rough field in the country, or an unsightly city estate, has been made homelike and beautiful by some new owner, who understood that the groundwork of every beautiful lawn is trees and green grass, and that its embellishment is shrubs and flowers. Then let it ever be remembered that the first requisite in the ornamentation of the home grounds is simplicity. Crowded flower beds and over-ornamentation is one evidence of crudity of taste. Simplicity is always an adjunct of real refinement and thorough culture in every phase of life. In trying to ornament our person, our homes, and our grounds, we are apt to display some form of self-consciousness or vanity by overdoing it. It is difficult to be natural and simple, but yet the greatest and most beautiful things in the world are always simple.

Then, in the arrangement of the home grounds, we should cultivate a simplicity that will give no suggestion of limited space or of a superfluity of flowers.

There should be no crowded flower beds and no cluttered-up yards. Every plant should have room to spread its branches, to absorb freely light and air, and to display to the best advantage the beauty of its flowers.

If the yard is small, let the flowers be few. A single plant or bed of flowers looks better in a small yard than a large number, when too much crowded. It would be regarded as a sign of vulgarity for a housewife to fill a small room full to overflowing with pictures and bric-a-brac, and a cluttered-up door-yard signifies equally poor taste.

Then, in this spirit of simplicity, let us consider some of the most noticeable features of our home grounds. To begin with, the lay of the land is an essential feature of any place. Sometimes the surface is shaped as if made on purpose for a fine building site, in which case it is easy to so arrange the buildings, walks, drives, trees, shrubbery and flowers, as to make a beautiful home, and sometimes the formation of the ground is unfavorable for a home site, and then it requires all the art and taste of a good architect and landscape gardener combined, to make it look home-like and beautiful. But speaking in a general way of the average place, it seems clear that the soil should be drained unless it slopes sufficiently to carry off all surface water, that the trees should be planted where shade is needed, and where they will not interfere with the best open spaces for the lawn. The drives and walks should lead from the highway to the house in convenient and natural courses. Usually they will not run in straight lines, unless the house sets very nigh the street; but where they cannot be made to curve naturally, and for apparent purpose, they had better go straight from the road to the house, for while the Hogarth curve often makes a line of beauty, it is capable also of being made a line of uncouthness and affectation, when drawn in an unfit place.

The shrubbery in the main should be placed in clusters of the same species, at points where needed to mark a walk or driveway, to border the open lawn, to cover foundation walls or barren places, or to fill up gaps. Outside the house the open lawn should be made the centre of attraction, and the gem of the home grounds. When we speak of the lawn we immediately think of the place near the house, where the grass has been newly cut; where the surface of the ground is smooth and velvety; where we love to walk with a beloved companion, or in pensive mood alone, where the dogs and children love to caper and play in the simple glee of existence; and where in twilight or moonlight, in warm weather, the whole family, and per-

haps neighboring families, can linger in the enjoyment of friendly converse as the long shadows flicker on the soft green sward.

This lawn ought to be situated so near the house that the sunlight, which passes unobstructed over it, can find ingress into the living rooms, from which the inmates can also obtain the pleasant outlook from the house. It should be as spacious as the grounds will admit, or as the owner can afford.

There are a great many shade trees which thrive well in our soil and climate, and they are all beautiful in their proper places. The elm, among trees, is unsurpassed for majestic gracefulness; the oak, for massive strength, is the king of trees; the maple, for utility and cleanliness, is superior to all the other shade trees; the ash, the beech, the chestnut, and all the evergreen trees, are beautiful in themselves, and when tastefully arranged with other trees and shrubbery on a lawn, or elsewhere, are lovely in the extreme. Besides these there are many smaller trees, like the birches, willows and flowering trees, which can be used to advantage on the lawn, and a host of fruit trees which are useful as well as beautiful.

Fruit trees are closely allied to flowers, as by a kind dispensation of Nature flowers precede fruit, and a fruit tree in full bloom is frequently as beautiful as a flower-bed, and gives, moreover, a double pleasure, for the observer can taste the luscious and life-giving fruit and enjoy the lovely sight at the same time. Therefore fruit trees can be used to advantage, and be ornamental as well as useful.

The mulberry tree is one which makes a fine foliage, and some varieties bear delicious fruit. Our apple tree is a fine tree, both in regard to shape, foliage, flower and fruit, and after the tree has been growing from twenty to forty years it assumes a most pleasing expression. All crab-apples are noted for their beauty and the exquisite fragrance of their blossoms, and can be used to advantage on the home grounds. The pear, also, is so elegant a tree, even if it bore no fruit, it would rank high for decorative purposes.

There are many other beautiful flowering trees, such as the locust, with its long, hanging clusters of sweet-scented white flowers. The chief objections to the locust are that the foliage comes out sparsely and late in the spring, and falls off early in the autumn. Its branches are brittle and liable to be broken by wind and ice storms, and the falling pods of some species disfigure the appearance of the lawn. Notwithstanding these defects it can be used to advantage with other trees when a variety is sought for, and should find a place in the home grounds more frequently than it does. The Laburnum,

with its rich yellow flowers hanging in pendant racemes, which blossoms in May, is the pride and glory of the lawn. There are many more which I might mention; indeed, there are so many that a lover of flowers has hard work to make a choice, if he has room for only a few.

Midway between the ornamental tree and the blossoming plant is the flowering shrub. On account of their beauty and the abundance of their flowers, shrubs are prime favorites with nearly everybody, and can be found in the home grounds of almost every residence of the most moderate size. Every flowering shrub has a beauty peculiar to itself, and standing alone is an object worthy of attention, but for pleasing and picturesque effect it should be grouped with other shrubs. They may properly be grouped in the same manner as trees, the fine and more fragrant species being placed near the house, and the larger and more hardy along the walks and the remote parts of the grounds. They can usually be used to the best advantage in giving fulness to the groups of trees and effecting a union between the grounds and the buildings.

They do not, like trees, shut out the view, and therefore they can frequently be used with good effect where trees would be an objection. When arranged with good taste along the margins of a walk or road they increase the picturesque beauty of the grounds. Fortunately there are so many different kinds of shrubs, from the early blooming forsythia to the late blooming althæa, that there is no trouble in having rich and beautiful shrubbery during the whole summer and autumn. With a little care in the selection, clusters of bright and perpetual blooming shrubs may be made to ornament the home grounds with a variegated beauty from spring to winter.

Flowering plants are not so lofty as flowering shrubs and trees, but they produce larger and more beautiful flowers. They come to maturity sooner, and are more manageable. They furnish bouquets for our use on divers times and occasions, and consequently seem to be more intimate friends and acquaintances than the flowers on trees and shrubs. Their arrangement on the home grounds must depend largely upon the size and situation of the grounds. When the grounds are extensive and park-like, flower gardens of French, Italian or English design may be planted and maintained with symmetrical patterns and figures, and outlined with fanciful borders. But flower gardens of this kind are generally out of place around the dwellings in this part of our country. Very few of our lawns are large enough to warrant such a display of artistic decoration, and

few of our purses are long enough to justify the expense incident to their suitable maintenance. The greater part of our lawns are small and poorly kept, and therefore the most we can do is to adorn them with simple and modest flower-beds, in harmony with their surroundings. A well-kept bed of tulips, dahlias, zinnias, asters, nasturtiums, is always a beautiful sight, and when properly located is sure to be an addition to the beauty of any lawn. As a rule, each bed should contain one species only, but sometimes a border of flowers or foliage plants of harmonious color may be used with good effect. An enthusiast is quite apt to have a passion for novelty and variety in the pursuit of his favorite object, and a passionate lover of flowers is usually possessed with a desire to raise all the kinds known to the florist. In times past I have been badly affected with this disease, but luckily I have recovered, and I now know that there is more pleasure to be had from a few beds of favorite flowers arranged in masses of the same species, than from any number of intermixed flower-beds constituting crazy combinations of things without form, and void of beauty. It is said that a true painter employs only a few colors in his masterpieces, and so the tasteful housewife will cultivate only a few species of the most beautiful flowers, and will mass each kind by itself in such a way as to make up a harmonious combination. If one wants a bed of intermixed flowers from which to gather bouquets, let it be placed in some nook or corner in the remote part of the lawn, where it can only be seen from a distance by the passer-by. The distance may lend enchantment to the view, but we may rest assured that its nearness will not add any beauty to the scene.

Hollyhocks, sweet peas and sun-flowers, look best in rows or clusters against a background of shrubbery or a structure of some kind.

There are many beautiful flowering vines and creepers which are very ornamental and picturesque when rightly located. A brick or stone house can almost always be decorated to advantage with vines and creepers, and sometimes when the porch or piazza of a wooden house is overhung with climbing plants an air of comfort and happiness is given to the dwelling which it would not otherwise have. Sometimes a stone wall, a dead tree, or some other object, is just the thing to display with excellent effect the beauty and gracefulness of some climbing vines.

A place for one or more climbing plants can always be found around every country house. A cluster of sweet-scented honeysuckle or of a fragrant and blooming clematis on a trellis, near the house,

gives an added beauty to the home grounds and increases the fragrance of the atmosphere around the same.

The wisteria, the climbing rose, the trumpet creeper, the woodbine, the English and Japanese ivy, are all lovely and graceful vines, every one of which, in its full growth and beauty, is almost a garden in itself.

In the culture of flowers, discrimination should be used in the selection of the varieties best adapted to the situation in which they are placed. When plants and seeds of every variety are clustered together indiscriminately in the same bed, they produce a variegated and wild disorder of beauty which is bewildering and inharmonious to the tasteful eye.

For the best effect, the perpetual blooming plants should be chosen rather than those which bloom unfrequently. Bare stalks and bare soil in a flower garden make it look unsightly, and detract from rather than add to the attractiveness of the home grounds. Each kind, or those harmonizing in color, should be clustered together in masses, thick enough to conceal the ground, as thereby an harmonious combination of colors is produced, and unpleasant contrasts avoided. If they appear to spring out of the green turf of the lawn they are all the more beautiful and attractive in every way. When planted this way the beds should not be raised up into mounds. If the mounds are well cared for they look artificial; and if they are neglected, they soon get out of shape and look dilapidated.

Then, too, in our hot and dry summer climate, the flowers are apt to dry up on these mounds, and often assume an attitude of mute supplication to heaven for a refreshing shower.

It is better to give our care and attention to a few choice flowers than to scatter and expend our energies on a multitude of imperfectly developed and undesirable ones.

Thus far I have treated the use of flowers in the home grounds as valuable chiefly for ornamentation, but they are no less valuable for use in other ways. They are very useful as a source of pleasure. Their fragrance is delicious to the smell, and their beauty gives comfort and satisfaction to the eye.

This pleasure is enjoyed by every passing observer, and no doubt it is a real pleasure to thousands of people who have never raised a flower or learned the names of a half dozen of them. But this pleasure to the mere observer is small, when compared to that which the living cultivator of flowers feels when he watches the growth from

day to day, and realizes that he has been instrumental in producing so much beauty and sweetness.

In life we get more real pleasure and enjoyment out of the close friendship of a few and congenial friends than out of a multitude of casual acquaintances.

So with flowers, when we have watched and tended a lovely rose, a delicate pansy, a gorgeous geranium, or a graceful lily, until we are familiar with its every bud, stem and leaf, we appreciate its beauty and cherish and love it with a feeling akin to human affection. By the proper use and arrangement of flowers the home grounds can be made beautiful and fair to see. They are a sign of good taste and culture, and when we see the outward surroundings of a home made attractive by flowers, grass and trees, we know that its inmates are refined and given to orderly habits. Some people, especially in the country, are too busy, or think they are, to spend any time in the culture of flowers, and consequently we often find the most beautiful home grounds in cities and villages. This ought not to be so. In the country there is abundant room for the embellishment of the home grounds by the natural products of the soil.

It is not so much a question of money as it is a disposition and desire coupled with good taste, and when these are found in a country home, however humble it may be, they result in making it beautiful without as well as within.

In this matter of the ornamentation of our home grounds we need to remember that Rome was not built in a day. We live on the high pressure principle, and do nearly everything in a hurry. When we purchase a new place, or make up our minds to fix up the old one, we want to have everything we contemplate doing completed as soon as possible. We are unwilling to make our improvements little by little until our ideal has been reached; and so we make our plans and execute them with railroad speed. In this way we sometimes smooth down the rough places and cover up barrenness with great rapidity; but we sometimes make great mistakes, and deprive ourselves of the great enjoyment which ever follows our successful efforts in making progress slowly in the right direction. All the good and beautiful things in our homes, from the children to the books and pictures, are appreciated and enjoyed by us in proportion to the time and care we have expended in their study, or in their bringing up.

The cultivation of flowers is also a source of health and strength to those who engage in the work at reasonable times, and in a proper way. A reasonable amount of manual labor and exercise is abso-

lutely necessary for the enjoyment of life and the maintenance of health. Digging in the soil makes children strong and healthy, and contact with it by cultivation is beneficial to men and women as well.

Again, the proper use of flowers in the home grounds is a source of education and improvement of mind and heart. The love of Nature and the taste for the beautiful are an acquisition desirable, if not indispensable, to any well-developed character.

Most children seem to have a natural desire to cultivate flowers, and have some of their own, and if this propensity was duly encouraged it would become a permanent trait of their characters. It would make them observing and familiar with the laws of Nature. To know the names of the different flowers and plants of one's country, and the wondrous processes of their growth, is almost equivalent to a liberal education.

Such knowledge enlarges the mind and softens and refines the nature, and therefore we should allow our children, girls and boys alike, to have their little flower-beds in pleasant and well-prepared places, instead of out-of-the-way spots, as is usually the case. If our boys were taught to love and cultivate flowers they would not, when they become husbands, as husbands now sometimes do, begrudge their wives sufficient land for a decent flower garden.

Flowers also teach us the method of transmission in Nature from a lower to a higher life. When we watch the growth and development of a seed springing into life in the soil, and expanding in the air until its branches are covered with leaves and adorned with smiling flowers, we realize the possibility of the transition of ourselves through the death portal into "the life elysian." The flowers awaking into life and beauty which, every morning, verify the miracle of resurrection before our eyes.

"In all places then and in all seasons,
Flowers expand their light and soul-like wings,
Teaching us, by most persuasive reasons,
How akin they are to human things.

"And with child-like credulous affection,
We behold their tender buds expand:
Emblems of our own great resurrection,
Emblems of a higher and better land."

16th February, A. D. 1893.

ESSAY

BY

FRANCIS H. APPLETON, OF PEABODY.

Theme:—"The Embellishment of Grounds with Trees and Shrubs."

Most of the ladies and gentlemen who listen to my brief words to-day have probably long since made up their minds as to how their own grounds should be laid out, and have them already well embellished with trees and shrubs as well as flowers and climbing plants. There are, however, other people who may, through your TRANSACTIONS, be glad to learn methods of planning and planting their grounds, and how to secure or raise their own trees, shrubs, and vines. And while all steadily strive to help the loyal members who attend meetings and otherwise aid in doing the active work of planning and executing for our Society, it is the non-attendants and non-members who most need to be interested and instructed in the line of horticultural taste.

With this view I desire to direct attention to the fact that your TRANSACTIONS can be made practically useful towards promoting an increase in the number of embellished homes in Massachusetts; and, even if such increase cannot always be in the form that might be recommended as best by those most capable of judging, nevertheless any advance in this direction will be a stepping-stone to a more general introduction of the best methods, eventually.

Would that more of those living in suburban homes, in villages and on farms, could be persuaded that there is actual value, as well as pleasure, to be gained through the embellishment and protection of their home grounds by a common-sense planting with trees and shrubs, and I will add, vines.

Some people have not the taste and inclination, while others have, perhaps, not had their attention sufficiently awakened to realize fully the benefits of the course proposed, and to know how easily such

results as our subject suggests can be accomplished. Consequently the advantages must be shown, and persuasion brought to bear, and advice given as to how the trees and shrubs and vines can be secured, and what varieties it is best to select.

Where the advice of those who have devoted themselves to a study of this subject, as have many of those who are here to-day, can be secured, it should always be sought; and consultation of books, such as exist in our libraries, would prove instructive in this as well as in all other horticultural matters.

Propagation of trees and shrubs from seeds and cuttings is the cheapest way, and is also an interesting and instructive one; but it is at the same time a slow method of securlng a supply, and would seldom prove satisfactory to most of those who desire to embellish their grounds. They would probably prefer to reap the benefits from their work sooner, by commencing with something that could be more quickly recognized as a tree or shrub, than could young seedlings. But where land is to be covered with trees, for forest growth, seedlings can always be used to advantage.

Toil, either mental or bodily, requires daily rest; and how can the toiler be better refreshed than by the rest to be acquired amid tasteful surroundings, in a home made attractive with trees, shrubs, vines, and the landscape views and effects which are formed thereby.

I have in my mind many farm and village homesteads, scattered throughout this and neighboring States, which could be made pleasanter, more interesting to their owners, and consequently of more value, by the mere addition of a few trees and groups of shrubbery.

The occupation of planning, planting, and caring for such simple embellishments is healthful, and agreeable, on estates of all sizes; and where the treatment of large estates is undertaken upon extensive plans, and under professional management, there is hardly a limit to the skill that may be shown and the beauty that may be developed.

Perhaps decoration of the latter class scarcely needs stimulating, for it seems to be almost an instinct in men with a bank balance to turn their attention to subjects connected with farming or horticulture; but to form, in the minds of those who are now indifferent to the subject, a desire for, and appreciation of, such embellishment, seems to be the best means to promote a general diffusion of this benefit. By all means let everyone cheerfully do his part in this interesting and important service.

As regards expense, the work proposed can all be accomplished

cheaply and surely—provided it be slowly—indeed at almost the cost of one's own care and labor; while at a larger but still moderate cost, and with the advantage of experienced advice, it can be secured in a shorter time.

Before attempting to state a few general principles for laying out grounds, let us briefly consider of what size it will be best to secure our trees. My experience has resulted in a belief that it is best, as a rule, to set out comparatively small trees,—in the case of evergreens say not over four or five feet high; and to use a considerably greater number than will eventually be needed, in order that they may give mutual protection until they become well established. The deciduous trees—whose branches can be trimmed in, so as always to bear a proper proportion to the roots—might be set out from six to eight feet high. Shrubs are best with ample roots and small tops in proportion; this rule will also apply to vines.

I think it is generally safest to apply these rules, and where there is any question as to the size of a tree to choose the smaller size; as this will have the greater chance of succeeding. No cast-iron rule can be laid down which will apply to all cases. If the site for planting is an exposed one the trees should be small; but if they are to be set out where it is already protected by existing woodland, which will afford shelter to the new trees, there will be fewer required, and those that are planted can safely be larger than if in an exposed location. It seems to me that the sizes I have named represent a fair average.

In setting all ornamental trees the ground should be thoroughly prepared beforehand, unless seedlings are to be set, when a slight spading may suffice. To prepare thoroughly for trees of the sizes I have suggested, remembering that we are striving for good success, it is best to dig the holes about four feet in diameter and two or more feet deep; fill them with good loam, and for deciduous trees, shrubs, and vines, spade in some good manure.

Every man who plants ought to do so intelligently, and should find a pleasure in personally studying his own requirements. I would advise everyone who is fond of trees to study the habits of growth of a few deciduous species by planting the seeds in three or four boxes, after the method suggested by Mr. Dawson in his paper in the Mass. Horticultural Society's TRANSACTIONS for 1885,* which is quite simple.

Ornamental planting must be adapted to the conformation of the

* Part 1, page 158.

land and the uses to which it shall be put; therefore, everyone who owns a homestead, or farm, ought to have a good plan of its outlines, on which may be shown the positions of woodlands, pasture, tillage, and unproductive land; also of the buildings, roads, and ornamented grounds, and the kitchen garden. The water-courses and the differences in level should also be shown. Such a plan continuously kept, with revisions from time to time, is essential to the best results.

The roads and buildings should be located with reference to convenience, but where the conformation of the ground or a grove or cluster of trees makes it best to have the roads and paths deviate from a straight line, picturesqueness is gained and no convenience sacrificed. It is often possible, by planting trees or otherwise creating an artificial obstacle as a reason for so doing, to deflect a road or path and thus gain a pleasing effect, without any unreasonable inconvenience resulting; thereby increasing the natural beauty of the grounds, and opening vistas which add to the general landscape effect; and forming scenes of varied grace which no artist's brush can reproduce.

I shall make no attempt to give any detailed plans for planting individual places and developing what Nature has provided in ever varying character on the many estates, of all sizes, which afford opportunities in this direction; but will barely mention here a few leading and obvious principles.

Trees should be so planted as to afford protection to both biped and quadruped; and especially the north and northwest sides of buildings should be screened from cold winds by belts of evergreens. These, however, should be not nearer than thirty or forty feet; leaving the interval as a precaution against woodland and grass fires. A gravel walk or road around any building is an additional protection.

The beneficial influences afforded by the direct rays of the sun should be allowed to reach the dwelling apartments of all living creatures, in house or in barn, in summer as well as in winter; and trees should not be so placed as to prevent this when they become large.

Considering trees as a shelter, the evergreens would seem to be the best protection against cold and wind, while deciduous trees will screen us from heat; but, used in combination, both join in producing the best ornamental effects.

I would that we might further encourage individuals to find in the study of such decoration a pleasant pastime; and thus to enjoy

advantages that lie at their very door but which may otherwise never be realized.

The study and practice of decorative planting has a value beyond its immediate results, since by cultivating thoughts about trees it stimulates people to read of and study their habits, and thus to acquire a knowledge of their effects upon climate and vegetation, on water sources, and in mitigating the action of dangerous winds and storms. And if, as there is reason for believing, our forests are being sacrified so that the welfare of certain parts of this country is endangered—either as regards the main water-courses on account of the scarcity of water for a large part of the year, and freshets or floods for a short time in spring, or as to the increasing lack of timber, or the consequent unfavorable effect on the climate—what action can be taken to prevent it?

In France and other foreign countries, the great injury caused by the too extensive cutting of forest trees has been publicly recognized; so that, as I understand, it has been deemed necessary for the good of the country that government permission shall be obtained before any woodland can be reclaimed for tillage; and that such permission shall be granted only upon condition that an equal acreage shall be planted with trees as an equivalent.

The subject of forestry is of course entirely distinct from that of ornamental planting of trees, although one who undertakes the latter, is most likely also to acquire some knowledge of the former.

There is evident need for promoting knowledge of this subject among our citizens; for we cannot avoid the consequences of our mistakes. As a means of instruction our Commons are treasures to our citizens, which cannot be too highly appreciated; and have often been made such more especially by those who have caused many of the trees to be labelled with both their botanical and popular names; which has undoubtedly greatly increased the interest in the subject of which they have become so fine illustrations. The number of species and varieties of trees which they are likely to contain is considerable.

It will not be desirable to take up your time with a detailed description of the many kinds of trees and shrubs which are suitable for use in embellishing grounds. What is chiefly needed where home grounds remain unembellished, or partially so, is to endeavor to make the owners or occupants of such grounds realize the advantages of forming a systematic plan—serving to show clearly how they might embellish, or might be advised and persuaded to embellish their grounds and roadsides—and then to inspire them to accomplish it as early as possi-

ble. There are unfortunately many people who have the opportunity but lack the necessary incentive to ornament their grounds; in whom a genuine love of the natural beauties of the world does not exist, or is not developed sufficiently to encourage them to become participants in this good work.

Too many omit to plant trees, who could perfectly well do so, because of the old excuse that they grow so slowly and will not benefit the planter. Such a man should recall the grateful shade of many a fine tree, planted in his own or a former generation, which he has been privileged to enjoy. Let that, combined with many a charming landscape picture, seen through a frame of foliage planted by another —perchance an ancestor—stimulate him to go and do likewise. Will he not recognize that, as he reaps benefits from those who have planted before him, so he ought in his turn to plant for those who come after?

Several old works upon this subject, as well as later ones, have interested me; and one writer in 1796, who was well acquainted, we are told, with still earlier writers back to 1664, cautions his readers in the strongest terms against a "want of spirit" in planting. He says that all who undertake planting must have "industry, spirit, and perserverance to go through with what they undertake; and we recommend to such as are possessed of these valuable qualifications to begin upon a small scale, and to let their seminaries, their nurseries, and their plantations increase with their experience."

He further says, "While, however, we caution our readers against entering immaturely upon the business of planting, we cannot refrain from mentioning the pleasure which results from it. How rational, and to a contemplative mind how delightful, to observe the operation of Nature;—to trace her in every stage, from the seed to the perfected plant; and, from beneath the leaf stalk of this, through the flower bud, the flower, and the seed-vessel, to the seed again! Man must be employed; and how more agreeably than in conversing with Nature, and in seeing the works of his own hands, assisted by her, rising into perfection—" so as to grow as he grows, to bear him company and afford him grateful shade when he shall most need it in advancing years, and when life is ended to be left behind as a most beautiful memorial.

I am going to speak of the Massachusetts Horticultural Society, located at Boston, and, as it is for the benefit of the whole State, I can, as one of its Vice-Presidents, exhibit no egotism if I do so in words of praise. By opening our halls as we do at the dif-

ferent seasons of the year, and as the various plants and flowers, vegetables and fruits, are, each in their turn, naturally by out-of-door growth, or artificially under glass in their best condition, we afford occasions and facilities for the display of the results of the cultivators' skill, and for intelligent study and appreciation of them by the public. Our library is one of the finest collections of horticultural works in the world—is very nearly the best; and it is the privilege of any student in horticulture to freely consult its shelves. The Society's prizes are open to all comers, and its readiness to benefit is only limited by its opportunities or means to act as occasion arises.

Is there not some way by which its power for good can be felt more completely throughout this State? Some way of encouraging everywhere a local horticultural interest, and making more widely known what can be found here at all times; and the fact that our rooms are open for an exchange of views on Saturdays? Such an increase in the field of investigation and practice in horticultural work as might thus be established in our comparatively small and compact State could not fail of good results; while it would yet more firmly secure to Massachusetts her present proud position as respects educational advantages.

We have in our State a varied surface, with a generous proportion of rich arable soil, and other that is better suited to use as pasturage or for the growth of trees. In our climate, where the heat of summer tends so powerfully to dry up the short sweet grass of our pasture lands, do not trees shading the surface of such pastures contribute to ward off the effects of drought, to sweeten the green food and lengthen its supply by preserving moisture longer in the soil, and to otherwise enhance the comfort of the animals grazing under the shelter of their branches?

It is said that animals must be kept out of pastures until the trees are fully established, and this is objected to as impracticable on the score of economy; but have we not lands which appear to be deteriorating gradually, where some such radical means are necessary to preserve their quality, and where, later, such a course may greatly enhance their value? Again, have we not good trees that could be planted in pastures, and which animals would avoid, but which would, with a little care as to trimming their limbs, form shelters to animals as well as to the ground, thus becoming of use in two ways at once?

We know that only amongst tree-covered hills and fields we find the sources of perennial springs, and that these are fast decreasing in

many sections of our State; and we all recognize their usefulness, and admire their beauty as the water flows from them in gentle streams, winding perchance beneath tall trees, or between belts of shrubbery, until finally united with the larger water-courses. Is not this a picture of results that can be made to come from planting, and indeed from planting that can be done gradually from year to year, if systematically planned, so as not to interfere with the general necessary work; and where it is deemed wisest not to employ extra labor in order to secure its earlier accomplishments.

As to the profit to be derived from planting with forest trees for commercial purposes, we should not base our calculation upon the prices of to-day, but upon the probable prices in the future when the crop will become marketable; at which time, to all appearance, there will be a much greater scarcity of forest products than now. It has been said that land which can be bought for a few dollars an acre is the only land where it is warrantable, in a commercial view, to plant forest trees; and that seems to be an aspect of the question which the advocates of forest planting in Massachusetts must meet. But by embellishing portions of our land, secured when prices are low, with woods intelligently cared for during a period of years, can we not have, in a reasonably short time, ornamental forests in the neighborhood of large cities, and near our towns, where the citizens can find agreeable resting places in their spare hours; with drives and walks well sheltered with foliage during the season when the days are longest, and the hours for pastime, and without business occupation, are most numerous? Often lands that are partially planted by nature can be secured, on which the existing growths may be guided, while new ornamental trees are added—these being so planted as to secure that improved effect and enhanced beauty which a wise mixing of different varieties must create.

No better bequest can the present generation leave to the next than well planted city and town grounds. It must be the best appearing towns, as well as the towns that can show the best financial management, that will take the lead in the future; and a combination of these two good points will to a very large extent, joined with the quality of roads and the character of the transportation facilities, decide for the citizen where he shall make his home.

How can we further aid in bringing about the general home embellishment of which we have spoken? It must be chiefly by increasing and promoting a love for the beautiful, and by fostering a desire to understand the process of formation and growth of our fine trees,

shrubs, vines, and plants, that we may hope to materially increase the number of embellished homes in Massachusetts.

Again, by encouraging the judicious decorating and planting of school-yard borders (allowing ample play-ground), and of grounds about post-offices, railway stations, city and town halls, and public buildings, where any decoration in this line is possible, we should be taking a foundation step towards the accomplishment of this desirable end. Consider the number of eyes that would then see and minds that would be led to think of the advantages of embellishing grounds; and consider the large proportion of persons who would sooner or later attempt to adapt to their own homes the suggested ideas.

But to come more especially to the matter of how to secure our trees, plants, and shrubs, how numerous do we find the phases of this subject, when we think of the many beautiful and interesting native specimens that we find wherever we pass among the wild plantations that the unseen hand of Nature has spread over the extensive and varied surface of our country, indeed of our world, and which exhibit to us from time to time newly-found specimens to be developed in strength, beauty and popularity, by our students of landscape effect, and of botany, and by our nurserymen, for home, and foreign, uses.

Let all join in the attempt to realize valuable results in this line of thought, in the hope of broadening this field of work in an undertaking aimed to secure the greatest general advancement in the line for which our Horticultural Societies exist.

So far as we thus aim to promote the introduction of our native specimens into the landscape of foreign countries, we simply promote the plan of action long since adopted by Horticulturists of some other nations in making exchanges with, and securing new varieties from, other countries.

All that can be done in this way results in benefit to the home-country; and, on the other hand, we can thank those abroad most heartily for all they can do in a similar way, and urge that they will continue their good work, not only that they may send us material results, but that our people may be brought as near to their intelligent foreign cousins in friendly business and personal intercourse, as the underlying interests of prosperity in the several nations of the world will justify. We meet the thought, in this connection, as to what useful and educational machinery we can use to bring to light, and popularize, unknown and desirable plants and shrubs. Older countries than ours give more instruction, in primary schools, in botany, and like studies more closely related to nature, than we do in the belief that while

they train the mind, they also promote powers of observation which are of greatest value in all business of life, and which will incidentally give much pleasure and enjoyment by encouraging an appreciation, and the study, of natural matters that are always at hand; and which our Park Systems are securing to our citizens for all future time.

Thus healthful ramblings in woodlands are promoted, and horticultural findings are encouraged in a useful and improving manner.

Besides what I have said, we must centre our efforts to secure the best relations between our leading Agricultural and like societies (Horticultural included) in our own country, and similar societies in older countries; and we must see that they are kept in close relations with the best practical, business and scientific societies and men at home, as well as with our country's representatives in foreign climes. We must seek every possible chance to keep advancing in such matters, and especially to preserve in Massachusetts her reputation for sincere purposes in all public efforts for the people's welfare.

I am well aware that certain nurserymen are making a specialty of native plants and shrubs, but all that can be said and done, to aid in popularizing such laudable efforts will enlarge their market, and increase the trade in such products.

The more that our native growth can find their way abroad, the greater the chance that they will become better adapted to a broader range of climate, and possibly may lead to improvements in our varieties, or their increased hardiness.

Such methods might permit a valued tree, or shrub, to be imported back to its native land and into a latitude, where it would be welcomed, other than where it could survive if first moved directly from its native habitat.

While considering this subject with reference to possibilities of enlarging our available trees and shrubbery, I recall suggestions that have appeared in the press, and elsewhere, as to how much our representatives in foreign countries could do for us, if they would turn their attention, and that of the members of their official households, when unoccupied with other business cares, somewhat more than now appears to investigations of the conditions and practises, in the countries where they temporarily dwell, with a view to ascertaining what benefits can be made to accrue to the United States especially in horticultural ways, that are probably now new to us.

Some of our representatives abroad, probably most of them, do not realize their opportunities in this line of usefulness, while others may

be thoughtless of much good that might come to their native country from some ventures in this line.

How much would our hopes and expectations be increased, if such representatives had included in their early training the interesting study of botany, as has already been suggested.

It is by the constant use of this principle among their loyal, and patriotic, ministers, ambassadors, and consuls, in alien lands, that nations other than our own and conspicuously England, have succeeded in advancing their own interests and welfare.

Drugs of great use and healing value have thus been brought into use throughout the civilized world, for example.

We in the United States of America can undoubtedly gain more than we do now in horticultural ways, and should be grateful that our institutions of learning are largely increasing the supply of men, whose ability and loyalty will insure their best work for their country's good, if sent on the missions to represent their nation in foreign lands.

This country demands such, wherever opportunity offers, at the helm of public affairs, and our citizens cannot fail to be benefited by placing men at the front whose pride and ambition would soon win for them a reputation.

Prosperous business, whether in commerce or trade (which includes horticultural interests), is the condition of affairs that brings the greatest good to the greatest number, and we as horticulturists need those as leaders who will surest secure, and preserve, such conditions. But I do not wish to appear to keep from my subject while speaking of those things that promote horticultural prosperity.

We must acknowledge our great indebtedness to the skilful nurseryman, and realize the advantage of purchase from him, who has reared and nurtured the young growth in a manner that trained heads and hands alone can do.

The improvements that have been made in the laying out of public grounds and privates estates of more recent years, and which are at the present time extending to the more modest premises of those who possess, perhaps, only small front yards, with, possibly, a little rear garden, or both, is not a little owing to the example, and influence, of the members of our societies that promote such interests.

In work connected with the Gipsy Moth Committee of the Board of Agriculture I have been called to inspect many suburban homes, of smaller size, that had not been elevated in any degree by even a faint whisper of what might be done to give pleasure or profit by the

improvement of the surrounding ground; which would also be a protection to the health of the occupants, and the neighbors.

It seemed strange to me that the health authorities had not ordered its improvement, but it emphasized the field for usefulness that our societies have before them everywhere.

Indeed, a profit could easily have been reaped by a simple cultivation of those small neglected lots, but public opinion had not then taken an advanced stand in those questions.

May these hints, to plant such to grass and flowering shrubs with vines kept well trained, or fruit trees and vegetables, meet the eye of some owner of small neglected home grounds, who will see profit in caring for them.

On larger places what beautiful effects we can gain by the varied combinations that the many deciduous and evergreen plants and shrubs afford us, with a possible carpet of ground-vines under the several clusters, or clumps.

The best effects can be attained only by special study and knowledge; and in order to be sure and obtain the best material and effect in combination, it is wisest to seek assistance from those who, by training and experience, we can feel sure will afford us the best advice and execution.

The landscape architect is to-day a recognized professional man, and is trained for that work. He knows no single nursery from which to select his plants. He has all such open to him, and he selects where he will and in greater variety in consequence. By his visits here and there, he suggests to our nurserymen deficiencies where they may exist, and advertises him who has supplies of special merit. He is a benefit to the nurseryman, and to him for whom the nurseryman acts as decorator.

Indeed, the nurseryman tends to become, if he is not already, a landscape gardener. The landscape architect, nurseryman and gardener are to-day working together for mutual benefit.

In this work of how great value will be, and is now, that wise foundation, the Arnold Arboretum at Jamaica Plain; and a word or two on this subject will not be out of place.

There is a considerable tract of 160 acres occupying a portion of the Bussey farm at Forest Hills station, on the Providence Division of the Old Colony R. R. Electric cars also start from the Tremont House in Boston to the same station. It is of varied character as to soil and elevation of surface, and admirably suited to test the landscape architect's skill and afford opportunity to display trees, shrubs

and vines, in large variety, and with numerous kinds of exposure and soil.

Here we find retreats and outlooks, which offer quiet nooks, and command extensive views, both inland and also out-to-sea.

By agreement between the City of Boston and Harvard University, to which Mr. Bussey willed his extensive farm, the tract of land for this Arboretum has been set apart, under certain rules that admit the public, while the City of Boston builds and maintains the roads and provides the police protection.

This Arboretum is endowed, and contains a propagating house; which the house of the Superintendent in charge of the grounds adjoins. The living collections are supplemented by an Herbarium, Museum, and Library.

Anyone properly qualified to pursue the study of practical arboriculture or forestry may be admitted to the Arboretum as a student, under such conditions as are laid down in a prospectus that is accessible to all upon application to the authorities at Cambridge by mail. Fees are remitted in consideration for services performed.

All that has been accomplished there so far, and very much more has been done than will at first be realized, has been executed with the greatest care and thoroughness, as is evidenced by a single statement. In some cases, where excavations have been necessary to promote the best growth of certain trees, the natural earth has been removed to the diameter of 20 feet, and depth of several feet to be replaced by prepared soil for a single tree, and often for one of small size. And, where mixtures of trees, shrubs and ground vines are set, the soil has been previously prepared with great care. The object being to insure the best chances of realizing, in all cases, the most healthy growth and most perfect forms of the many varieties that the Arboretum is composed of.

Every effort appears to be made to secure for its composition a collection that shall eventually be as complete and perfect as human ingenuity and the resources of the world, in the climate of Massachusetts, will allow.

There is every reason to think that time will establish here an institution whose usefulness to the State, and beyond its borders, will be second to none in the world's, and limited only by climatic considerations. The present foundations are admirable to build on, and are well deserving of a visit.

This will soon be one of Boston's links in the long chain of Parks that will extend from East Boston and Charlestown, along the banks

of the Charles river, through the centre of the City, Brookline, Jamaica Plain, the Arboretum, Franklin Park, Dorchester and its bay, South Boston and City-point, to Castle Island so beautifully situated well out in the harbor.

Add to this the proposed Metropolitan Park system, and I ask what city in the world has finer actual and prospective attractions than your State Capital?

If the trees, shrubs and vines are here marked, clearly but inconspicuously, with both common and botanical names, what valuable instruction will be afforded to the people in their rest and enjoyment; and lead up, in either direction, to the more complete object lesson, the Arboretum which is near the centre of this park chain.

All this tends in the line of advancement, and promotion, of greater interest in, and love for plants, shrubs, and vines; and an increased appreciation of the delights, and refreshment, that come with a better understanding of nature's possessions.

It is, in my opinion, the intention, under our Statutes, that our Agricultural Societies should lend all possible aid to secure advances in every phase of useful out-door interests, including the one now before us; but on other subjects opinions naturally vary as to the order of importance of the many useful branches coming under the head of Agriculture.

The Statutes show that the word Agriculture is there used in its broadest sense, and that we of the Societies, and their State Board of Agriculture, are intended to follow no special branch, but each, and all, in respectful order and variety.

We must strive to direct our efforts for the promotion of our Agriculture (horticulture, farming, &c., &c.) as completely and as thoroughly, as is possible for the State's benefit as a whole. It has seemed to me, in certain efforts, that I have lately been active in, that, there is wanting an important detail of organization, which would greatly aid in accomplishing better results in agricultural promotion, and that detail is far too little local organization among the members of our Societies in the several cities and towns throughout the State.

This appears to be a weak point with some of our Societies, whose strength was *locally* great in days that are past.

It is true that interests have increased as time has advanced, but such is the very reason why modern methods and requirements in agricultural matters need to be pushed to the front. The requirements of the foremost knowledge in scientific and practical lines were

never more than in the present age; and the best science and the best practice should be placed before our people.

I close with the following list and brief descriptions of what seem to me the most desirable trees for planting in Massachusetts, either for embellishment or for their utility as timber.

Acer saccharinum: Sugar Maple.—Good as a forest or as an ornamental tree; will do well on rocky hill-sides, when once established.

Acer dasycarpum: White Maple.—Naturally growing along river banks, but seeming to grow rapidly in almost any situation; does well as a street tree, but is easily broken by ice.

Acer platanoides: Norway Maple.—A round-headed tree of medium size, suitable for shade or ornament; might be used in plantations.

Acer rubrum: Red Maple.—Will grow on any soil, but seldom makes a large tree unless in moist ground.

Ailanthus glandulosus: Tree of Heaven.—Where perfectly hardy will grow on almost any soil; wood excellent in grain for cabinet making.

Betula lenta: Black or Cherry Birch.—Will grow on the poorest rocky soils; good for ornamental planting and also for fuel.

Betula papyracea: Paper Birch.—One of the most ornamental of the birches; a fine tree for large lawns or other plantations.

Betula alba: English White Birch.—A very beautiful ornamental tree, The variety *populifolia*, or American White Birch, will grow in the poorest of soils, and make good fuel if cut and kept under cover, but rots if wet.

Betula nigra: Red or River Birch.—Grows naturally in low grounds, but is a fine ornamental tree in any good loam; fine for parks or plantations along streams.

Betula excelsa.—This species is found far north, and in the mountains of Western Massachusetts; it grows on seemingly thin but moist soils; a fine tree for ornament or plantations.

Carpinus Caroliniana: Hornbeam.—A small tree; does fairly well on sterile soil.

Carya alba: Shell-bark Hickory.—Though growing in almost all situations, does best in deep rich loams; good for timber or for ornament, and fine in groups in a park.

Carya sulcata: Western Shell-bark Hickory.—Like the common hickory as regards choice of soil.

Carya porcina: Pig-nut.—One of the best of timber trees, useful and ornamental; slow growing on poor soils.

Carya amara: Bitter-nut.—Very rapid growing on moist soils, even where the soil is thin; very ornamental, either in groups or single.

Castanea vulgaris var. *Americana:* American Chestnut.—Does well on any soil that is well drained, either for timber plantations, parks, or roadside use.

Castanea pumila: Chinquapin, or Sweet Nut.—A medium-sized shrub here; fine as an undergrowth or on the edges of plantations, furnishing good food for game and also good for man.

Catalpa speciosa.—Highly prized in the West on account of its rapid growth, and its durability; fine also as an ornamental tree.

Fagus ferruginea: American Beech.—A fine tree for grouping in parks or pleasure grounds, and does well in a thin soil when once established; good for fuel.

Fagus sylvatica: English Beech.—Not so spreading as its American cousin, but nevertheless a good tree for ornament.

Gleditschia triacanthos: Three-thorned Acacia.—Rapid growing on any ordinary land; of fine foliage; good for ornamental planting or hedges.

Juglans cinerea: Butternut.—A rapid growing tree in good soil, valuable as timber and for ornamental planting; nuts edible.

Juglans nigra: Black Walnut.—A first class tree for ornamental and useful work; requires to be planted in good loam while small.

Magnolia acuminata: Cucumber Tree.—A fine tree for lawns or parks; neat in its appearance; it needs a deep sandy loam to do well.

Platanus occidentalis: Button Ball Tree.—A fine ornamental tree; thrives fairly on medium land, but requires good treatment to make it grow to a large tree.

Populus alba: Abele, or Silver-Leaved Poplar.—A rapid growing tree; used in Great Britain for floors; is easily scoured to pure whiteness, does not take fire as readily as other woods, and burns very slowly; is also good for paper pulp.

Populus canescens, Gray Poplar, *P. nigra*, Black Poplar.—The wood of *Populus nigra* is much use abroad for packing cases, especially for bottled wines; the knotty trunks, which are curiously mottled, are made into ladies' work-boxes, which are highly valued in Germany and France.

Cladrastis tinctoria: Virgilia, or Yellow-wood.—A beautiful tree for ornamental plantations, of fine spreading habit, and beautiful in bloom.

Cratægus: Thorn.—All the large growing species form fine fringes along the borders of woodlands or parks; they are attractive both in fruit and flower.

Fraxinus Americana: White Ash.—A tree of the first order for timber; makes a fine road tree, but late coming into foliage; to grow it well requires a good, somewhat moist, soil.

Fraxinus pubescens: Downy Ash.—A tree that will do on higher grounds; but it does not make so large a tree as *F. Americana.*

Liriodendron tulipifera: Tulip Tree.—A grand ornamental tree; and further south it makes a fine timber tree a hundred feet or more in height.

Prunus serotina: Wild Black Cherry.—Makes a fine timber or ornamental tree; the wood is also valuable for turning and for cabinet making.

Quercus rubra (Red Oak); *Q. tinctoria* (Quercitron, or Black Oak); and *Q. coccinea* (Scarlet Oak).—All these do well on light soils. Though not as valuable as the White Oak, they are of much more rapid growth. Nothing is more beautiful than *Q. coccinea* for ornamental planting, and its autumn coloring far exceeds that of most of the other oaks.

Quercus palustris: Swamp Spanish or Pin Oak.—Though naturally fond of moist ground, this will adapt itself to almost any situation. It is a tree of most rapid growth and beautiful form. Trees planted from the seed box on a hill-side without any preparation ten years ago are to-day fine specimens ten or twelve feet high, of beautiful form. This would make a most excellent street tree. An avenue of these planted at Flushing, Long Island, by Mr. Samuel B. Parsons, some twenty or twenty-five years ago, is the finest avenue of Oaks on Long Island.

Robinia Pseudacacia: Common Locust, or False Acacia.—Flourishes on comparatively thin soils; although in some sections it is troubled with the borer, in some situations it does well. It is of very rapid growth while young, and would make a good nurse tree until others could be grown. The wood is very durable.

Tilia Americana: American Linden, or Basswood.—A much finer tree than the European Linden, and although it loves a moist situation it makes a fine tree in any ordinarily good soil. From the bark can be made a bast equal to the finest Cuban, which is so much used as a tying material.

Salix alba: White Willow.—Also a fine tree; will do well in any good soil; is readily propagated by cuttings of any size, from six

inches to as many feet in length. The bark is rich in tannin, and the wood makes a fine charcoal, excellent for gunpowder and fine crayons.

Of the Pine family, nothing is so well adapted to the worn-out soils of New England as *Pinus Strobus*, the White Pine; and nothing will so well repay in a few years the labor required in planting and care. Usually it will make a good sized tree, available for fuel or box boards, in from twenty to twenty-five years. It is easily transplanted, but a little difficult to grow from seed by amateurs. There are many farms in New England where there are groves of pines, and where thousands of young seedlings from six inches to a foot in height can be found. If a few thousands of these were collected each year and planted thickly in nursery rows for one year, all that were going to die would do so the first season. The following season they could be transplanted in pasture or prepared ground, four or five feet apart each way, after which they would require but very little care and would soon repay the planter in fine groves of pines.

After one or two years a few quarts of acorns might be dibbled in amongst the pines and the resulting growth would serve as the nucleus of a second crop, to succeed the pines.

Pinus resinosa: Red Pine.—Also a fine tree for light lands; of rapid growth, fine as an ornamental tree, but not so valuable as the White Pine for timber.

Pinus rigida: The common Pitch Pine.—Valuable in places where other trees will not grow, such as along the coast and in other exposed situations. In such places it will act as a shelter to the better trees that may be planted afterwards. It will grow readily from seed sown broadcast or in hills.

Larix Europæa: Scotch or European Larch.—An excellent tree for poor lands, and can be obtained from Douglas, of Waukegan, Illinois, at a few dollars per thousand. Plants two years old, transplanted, are the best for forest Culture.

Abies Canadensis: Hemlock.—Valuable on hill-sides having an eastern or northern exposure, and near water.

Abies balsamea: Balsam Fir.—Though of rapid growth on ordinary soils and a fine ornamental plant, it is not long-lived; it lives but from thirty to forty years, and is not much used as a timber tree.

Pinus sylvestris: Scotch Pine.—The same may be said of this as of the preceding. Although of rapid growth, twenty-five to thirty years is about all it will last on our thin soils and in our dry climate, though it is excellent as a nurse or shelter tree.

Picea alba: The common white Spruce.—Nothing is better than this for wind-breaks, shelter, or ornament. It is much hardier than the Norway Spruce, and should be planted in preference to that tree, though the Norway makes a fine tree in a sheltered, moist situation.

Of Elms, the American, or English, or Dutch will grow in any situation and make good-sized trees. To have them in perfection they need a good generous soil with considerable moisture.

All the Willows and Poplars can be propagated with the greatest ease by cuttings six inches or more in length; any boy can grow them. Planted six or eight inches apart in nursery rows in early spring, they will at the end of the first season be fit for planting in the field.

All the Oaks, Hickories, Chestnuts, and Walnuts can be started from seed in shallow boxes, and transplanted at the end of the first year in nursery rows or where they are to remain.

The Birches should be sown on well prepared beds, patted down with the back of the spade or pressed with a light roller, and covered with a light mulching of hay until the plants appear, when the covering should be gradually removed. These seeds can scarcely be covered with loam if success is desired. Such seeds as those of the Leguminosæ should be well soaked for twenty-four hours or more before sowing.

Full directions for seed-sowing may be found in Mr. Dawson's paper, which has been before referred to.

23d February, A. D. 1893.

ESSAY

BY

HERBERT R. KINNEY, OF WORCESTER.

Theme:—Successful Vegetable Gardening.

Mr. President:

While this subject might mean, to some of you, the way to make the most money from the vegetable garden, it means more than that to me. So, if I spend less time on the way to get the most dollars from the business and more on the making it a true success, I trust you will not doubt my sincerity but allow it as looking at the subject in a different light.

There are comparatively few great market gardeners and they are men who would be a success in any line of business, and while it is or should be beneficial for us, who are engaged in the same business, to visit their places and listen to their essays.

They handle the subject in a very different way from that practised by the majority of those engaged in the business about small cities and towns.

As we have had a very able paper early in this course of meetings on this subject by probably the ablest market gardener in New England and one of the smartest speakers, on the subject, in the country, it would seem to me proper to look at the subject from the standpoint of the smaller gardener, and try and see if his success may not be as real, if he so chooses, as those who carry on business on a much larger scale.

Success in any business depends on two things and of these I shall place, 1st, a love of, or at any rate, an interest in, that business; 2nd, an ability to conduct such business; and while these two might be subdivided they seem to cover the whole ground in a general way.

It might be possible to make money without the first, a love for the business; it is very evident that it would be impossible to make money without the second, an ability to conduct such business.

While it is necessary in order to make a success of any undertaking, as a rule, to be able to get a sufficient profit to pay 100 cents on a dollar it does not seem to me as though it was necessary for a man to increase his bank account to make a success in market gardening or even to be paying off his debt rapidly. The young gardener usually has a family and usually when not near a metropolis owns his place and if he considers making money essential to success, then the more money he makes the more successful he is.

Now this is dangerous, not for his creditors, but for himself and family; not that there is any danger of his making a great fortune, but rather in the strife to make money he and his family, especially his wife, will be liable to work so hard as to lose all the love they may have had originally for the business and be unable to get the real enjoyment out of the many advantages of life in the country, especially near a city or town.

It is not necessary or desirable that we should consider our business the best business there is, or the only one that we could consent to do.

To make a success of market gardening it is necessary to enter it with the intention of not only trying to get an honest living, but much real enjoyment from our gardens, not one or two members of the family, but if possible, every one, and this can be best accomplished by there being as near perfect harmony as possible: where there is a feeling that we—the men—earn all the money and must have the best of tools to work with, while they—the women—can get along with anything in the house, there may perhaps appear to be perfect harmony, but we would hardly expect to find perfect happiness.

We, as gardeners, as well as the farmers, have been in the habit of considering that we, as well as our wives and children, could work from twelve to sixteen hours per day and live as long and enjoy life as well as though we worked less, or if we couldn't enjoy ourselves and work in that way it didn't make any difference. We must work to make a living, a success, in other words—to make money.

I believe there are many men, especially those who have brought up families, who die comparatively poor, who have made a greater success of life than many who die well off or rich.

There are few classes of men that should be better judges of the value of a dollar than the gardener or farmer, but I think there are

some who know better how to invest one. If I could encourage some of you who have money to invest or others who had a few hundred dollars that they were intending to use to stop interest, to look about your homes inside and out and invest it where it would bring as much or more interest and make your homes the more happy and pleasant I would consider this paper a success.

It is usual in papers on market gardening to state what kind of land it is necessary to have and how much capital per acre, and many other things that may be of importance to the beginner, but audiences are not usually composed largely of beginners and I shall pass that altogether with the supposition that the majority of us are located and are not contemplating a change, but there is one feature in the direct line of our work that I wish to bring before you, and consider it one of the most important subjects we have before us at the present time. I refer to the manure question.

It is one that is almost always before the market gardener. By manure I mean, as Webster says, "Anything that fertilizes the land."

It is unnecessary to say that we, as gardeners in New England, must fertilize our land liberally if we would receive remunerative crops, but it does not seem to me necessary for us to say that we must have manure from the cow or horse stable or from any special chemical.

But to grow satisfactory crops in a market garden for a series of years it is desirable to apply not only nitrogen, phosphoric acid and potash, but considerable vegetable matter, and it has been considered necessary to get the best results to apply all these elements at one application in the form of horse manure from the city stables. I say it *has been* considered necessary.

But while I do not consider it necessary to have horse manure to grow good crops of vegetables it is far from my intention of attacking that as a manure in the vegetable garden; it is a waste product, but we as gardeners do not want to waste it. Neither do we want to pay more for it than it is worth, and if you take the common version of this, "a thing is worth what it will fetch," then it remains for us to decide what manure is worth. The replacing of the horse by electricity on our street cars and the extending of the lines of cars to many parts of the city where horses have been used more or less will have a tendency to shorten the supply of manure, and if each of us should say we must have as much or more stable manure as we have been using there is sure to be a sharp advance in price.

But on the other hand, if it is a fact that we are paying as much for stable manure now as it is worth, and I believe we are in many cases

paying more for it than the same plant food can be purchased for in other substances, the question is, first, are we paying all we can afford to pay?

I think you will all admit that it is very much cheaper than it was several years ago and it would have continued to be more plenty, had things continued as they have been, as farmers have found that it was more economical to buy more manufactured manure and chemicals, and most of the gardeners are using mixed manures some, and the points I wish to call your attention especially to in this connection are, first, that there will be, practically speaking, no more manure made in the city if we pay $5 per cord than if we pay $2. Second, that we as gardeners and farmers will get it all just the same.

Third, all that will be necessary for us to do to keep the price where it is is to take what is offered at that price, and make up with fertilizers and chemicals.

Fourth, if we all say we will have as much manure as we have been using, I predict a sharp rise in price before the end of a year.

I intended to take up some of our standard chemicals and discuss them separately, but I am covering time faster than the subject, but there is one thing in relation to chemicals and such fertilizers as dried blood, fish and bone, these are not complete fertilizers, that is, they do not contain all the elements that it seems to be necessary for us to apply to grow good crops, that is, nitrogen, phosphoric acid and potash, and for that reason, anyone who does not want to bother about what his crops calls for, or what the chemicals contain, and what else it is necessary to apply with them to make an even balanced manure, had better buy mixed goods.

It is very desirable to have a continual income and if the market gardener would have one he must make arrangements accordingly. Where vegetables and milk, or any branch of the dairy business are carried on together, this is much easier than where vegetable growing is the exclusive business, but here there is but little trouble in having something to sell every week during the year, even without much glass, and, while there is not the money in stored or forced vegetables that there was before trucking was carried on so extensively in the South, there are many advantages of storing some vegetables, and it would seem to me as though we should store more than we do; it would be certainly desirable to if we were to have such winters as this has been.

Usually most vegetables will bring about as much in the fall as during the winter, and it is often argued that it is better to sell at that time, and it may be, but it often takes much time to prepare them for mar-

ket and much longer to sell them, and there are so many things to be done in the market garden during the fall that it is often desirable to store such vegetables as will keep and then take them out and sell at the same price that could have been received for them when stored.

While I am a believer in storing vegetables, that man will store them the most successfully who does the work well and sells at the right time, and while we all like to get the top price, there are very often times when less will be just as profitable.

The man who expects to live and make a success of growing vegetables must remember that the whole country is full of farmers and that many of them raise more or less truck which they bring to market after haying and all along during the fall, and while this is the season when more vegetables are sold than any other, there are so many selling all of the hardier and more easily grown vegetables that the market gardener should plan to do very little marketing of the more common crops at this season, and where two crops are grown during the season there will be but little to sell at this time, and while one good crop usually is more profitable than two medium ones there are many advantages in growing two. It is necessary to manure more liberally and cultivate more and the weeds do not have the chance they often do where but a single crop is grown.

There should be some glass on every vegetable garden, that is, where vegetables are raised for a business and at the present time there seems to be no doubt but what if there is to be much work done in winter, or any considerable amount of capital invested, that houses are to be preferred to sash, but for growing vegetable plants and such vegetables as radishes, lettuce, and dandelions in early spring and cucumbers later, sash do very nicely.

The construction and heating of houses has changed considerably during the past ten years and while we may expect to see more or less change during the next decade there are being some very nice houses put up in the market garden districts. The methods of handling sash seem to have changed very little of later years, and so far as I know there has been no satisfactory heat except manure; which is not entirely satisfactory in such a winter as this has been, but from this time out there should be but little trouble in getting sufficient heat, and from my own observation a few hundred dollars invested in sash, providing you can get the manure for the heat reasonable and have use for it after it is taken from the beds, will be more satisfactory than the same money in a small house; but it would

seem as though if one wished to invest $1000 or more in glass that a house should be the more profitable.

While I will not try to describe any methods of raising crops or plants under glass that I have observed or practiced, it will not be out of place to call your attention to the fact that the professional market gardener spends much more time raising his plants than do the average farmer and gardener where these occupations are combined, and that I think is one of the principal reasons why the large gardeners are apt to be so much ahead of the smaller ones in the market.

They transplant more and give the plants more room in the bed and by so doing get plants that are better rooted and hardier.

For a main crop this is not so important, but where you would have anything very early it should be in such a condition as to start as soon after setting as possible, and my own observation seems to lead me to believe that the more business a gardener did the more particular he was to have good plants.

There are many advantages of raising quite a number of crops as it brings the work more even through the season and there are few seasons that are poor for all crops and the more one has the greater are his chances of having some paying ones, but on the other hand some land is especially adapted to some crops and some men seem to be especially successful in growing a few crops, and there are certainly many advantages of growing large fields of anything and should the public market that is being talked about at the present time become a success I think more of our small growers would find it to their advantage to turn their attention to a few special crops.

This applies especially to those who are giving most of their attention to some line of the dairy business.

At this season of the year when we are trying to decide on the acreage to plant to each crop if we could know what the season would favor and what would do poorly we might plan with some certainty what crop it would be best for us to increase our acreage of, and what we are raising as much of as profitable, but it is so often when there is a decrease in the acreage there is a decrease in the average yield per acre. Squashes and potatoes illustrate this the past season.

While it is not desirable, ordinarily, to grow crops that are not adapted to our land or location, or such crops as we dislike to handle, there is little use of our changing just because the crop happened to do poorly or sell low last year.

It seems to be necessary to succeed in any business, to start on some general line and stick to it.

2nd March, A. D. 1893.

ESSAY

BY

DR. HOMER T. FULLER, OF WORCESTER.

Theme:—"Origin and Character of Soils."

Soils are chiefly derived from rock,—originally from the cooled crust of the globe. They in depth vary from the merest film of dust to several hundred feet. At Lakewood, N. J., in drilling an artesian well, the workmen went down over 700 feet through almost pure sand and gravel before reaching a stratum of clay thick enough to hold water. Nor did they reach bed-rock even then. This extreme porousness of the soil, at that place, making it absorb water almost as rapidly as it can fall, even though it pours in torrents, is what makes that so famous a health resort in winter, excelling for dryness probably any other locality north of Salisbury, N. C., and almost every other north of Florida. On level plateaus in the Southern United States where the soil has been but slightly disturbed, it loosely covers the rock to the depth of from two to twenty feet. In valleys like that of the Mississippi, or of the Nile Delta, the depth is greatly increased by the wash of rivers, from one-eighth to one-fourth of an inch in depth being added to Lower Egypt in a single overflow of the swollen river. And yet soils almost as deep as any in the world—perhaps only those of the valleys of the Amazon, the Ganges, and the Yellow River of China being excepted—are found right here in New England and in our own State of Massachusetts. For here a depth of two hundred feet or more is occasionally found, and a depth of forty to sixty feet underlies a considerable portion of Worcester and the surrounding towns. There is solid rock underneath, and around us, but sometimes bare and sometimes very irregularly covered. You dig down sixty feet on Union Street and do not reach it, you climb Belmont Street to the shore of Bell Pond, and northward it towers

still higher. Between the decapitated crest of Millstone Hill or Rattle Snake Ridge and the bottom of the peaty deposits in the vicinity of the sewage settling works at Quinsigamond there is 300 feet of difference of level. What is the cause? Not one, but several. Causes are not generally single, but manifold. We mistake in postulating single forces for any change. A stone rolls down a steep hill. Is it because the hill is steep? Partly, but what if the stone were a handful of clay or mud? Would it then roll? No. So we say *we* grow strawberries. Do *we?* or the earth, or the fertilizer we add to it? Or does the sunlight, or the rains from heaven. All, all. Air, earth and water all contribute to the plant life. The soil is nature's laboratory—a place where operations or experiments are carried on upon the grandest scale. To account ultimately for these soils let us go back a little—seventy millions of years—not less, possibly ten times longer, and the whole globe is at a white heat—no water on it—it has not settled yet. Neither is there air. It is far away yet, on the top of the gray hot mist of all the lifted ocean, or dissolved in the mighty enveloping mass. The old round world cools a little—it becomes dark in color like the iron just off from the forge or out from the rolling mill, or like the coil of wire newly reeled in the wire mill. But throw that coil of wire into the mill-yard, and the gray-black becomes rusty-brown. Let this cooling molten rock,—like the dark trap I hold in my hand, be exposed to the moist air and it turns a dirty brown. It oxidizes, rusts slowly and crumbles. Ultimately this will give a brown or reddish brown color to the disintegrated mass. The same process goes on now in the change of lavas. They come out of Vesuvius or other volcanoes dead black in part, but exposed to air turn brick red. The iron within has oxidized. [Two pieces of lava from Vesuvius were shown in illustration]. Or if the lava be destitute of iron, it will cool white and spongy. We call it pumice-stone. This ground up by the action of water makes sand. So was formed the sand on the earliest sea-shore of geological time. Underneath, quartz crystals were made, or if the materials of clay were present, feldspar and mica would aggregate, and in time coarse granites be formed, or basalt of a coarse grain be produced. Again, into the sea of that early time would in the condensing of the vapors which surrounded the cooling earth be gathered the carbonates of lime and soda, the common salt, and other soluble minerals and salts —probably in much greater proportion to the pure water than now—and so was provided the immense store for the growth of that vast range of coral and shell-fish life which inhabited the early oceans, and

that made possible those accumulations of organic remains which were compacted slowly into limestones and marbles.

It is not my purpose to trace the history of the stages of changes by which the earth has come to its present condition, but let me call your attention to these facts. The crust of the earth cooled, then oxidized and crumbled, the sea raked over the early gravels and re-cemented them. In this way the stratified rocks were formed, and were interleaved with deposits of limestone, and iron ore, and salt, and coal, and from the re-pulverizing of these re-crystallized and massive layers and the mixing of the organic with inorganic material we get the basis of our present soils. Have you ever wondered why the earth was so many millions of years getting ready for man? I cannot answer the question in full, but a clue to a partial solution may be found in common processes in the arts. Take for example a piece of crude pig-iron. It is coarsely crystalline, as you see by this piece in my hand. It is not very strong. Re-melt it and, better, mix it at the same time with iron from another ore-bed. The cast-iron product is finer grained and stronger. Put it in a puddling furnace and work it over—the more the better—and it is stronger and tougher still. Or, refine it still further, and the steel that can be made from it has a tensile strength of eighty tons where the crude pig had a strength of only two or three tons per square inch, and is so fine in grain that only a powerful microscope can resolve the crystalline particles. The primitive soil of the carboniferous age may have answered for the coarse vegetation of that day, for ground pines, and horse-tails, and ferns, but it was not yet fine enough and well enough mixed for grapes and sugar-cane, roses and orchids. It was not yet good enough for man. For him marble must be crystallized and compacted, gold and silver and copper washed out and refined by percolating waters, sapphires and rubies and diamonds moulded, shaped and colored, and best of all the dull, dun-brown earth have its coat of dusty fur combed to a marvellous fineness.

To this end large portions of the surface have been repeatedly submerged, and then have emerged, have been like a boy in a bath-tub, ducked and then allowed to dry and breathe, have been shower-bathed in addition weekly for ages and are dirty still.

But most of this is ancient, far-off work,—necessary, but done ages ago. What has been done *for us?* What is now doing? are the questions you ask. Be patient. The oxidizing and repairing of the surface of the globe and after the crust became fairly stable, its further oxidizing went on till about 40,000 years ago when the loose soil

and gravel on the surface varied from, so to say, thirty or forty feet in thickness. Rivers had washed it, and in tropical and warmer temperate regions the growth and decay of vegetation had been sufficient to produce organic acids in such quantity that more complete pulverizing of the rocks had occurred than in colder regions. In the north soils were deep enough for cultivation, but the detritus was coarse and unfit for finer plant life. Then came the Glacial Period and the ice movement. The great sheet of ice flowed southward, pushed forward and mixed the detritus already made by oxidation and wave and river action, and beneath the mighty mass bolted much of it to the fineness of flour. Once it was supposed that the great fertility of the Genesee valley in Western New York, a region fifty years or more ago accounted the garden of the United States, was due to the limestones which lay underneath it,—that the disintegration of these had made the soil so durable that wheat could be raised forty successive years on the same land without much exhausting it. But later investigation has shown the fact to be that glacial agencies have borne the soil from the disintegrated limestones and shales farther north, mixed them and spread them all over the central and western parts of the State. But beyond this, over nearly the whole region from Maine to Dakota and as far southwards as the Ohio river, the glacial ice sheet with its graving tools of boulders and pebbles frozen into its sockets has eroded from the solid bed-rocks over which it mounted as much more material for soil as before existed. Indeed, Prof. Crosby of Boston has estimated that the fresh rock-meal deposited in all the Boston basin, or everywhere within twenty or more miles from that city, at the end of this epoch was twice the amount which had previously been formed. Certainly the force which furrowed Kelley's Island in Lake Erie fifteen feet deep, which ploughed the iron-like trap of Mt. Holyoke to the depth of many inches, which decapitated Monadnock, and swung itself a thousand feet in thickness over Mt. Washington, which transported on its bosom boulders of many tons weight from one to a hundred miles was adequate to the task of planing a continent. Of this we have certain and abundant evidence within the confines of our own city. A major part of the loose soil and gravels, and, if I mistake not, all the clay banks in the vicinity of Worcester are glacial deposits, though some of these have been changed, and here and there overlaid by river deposits. The bed-rocks wherever freshly disrobed of their earth mantle, as on the slopes of Millstone and Chandler Hills, and Mt. St. James, and over the whole crest of Oak Hill, are planed or scored in parallel lines running nearly north

and south, while the whole of Messenger, Bancroft, and Newton Hills, and the ridge on which the Polytechnic Institute is situated, are entirely composed of glacial till or are parts of moraines. Union Hill, the ridge on which Harvard and Woodland Streets are located, the ridge west of Park Avenue at the north end and the hills east and north of Lincoln Street are elevations partly of the mica schist rock, but everywhere overlaid with morainic deposits or the overwash of this material by later floods. The glacier in its passage over the valleys left in each the older soil and covered it with the freshly ground rock-meal, which makes up our boulder-clay. This is now seen best on the northern and southern slopes of our higher hills, as on the south side of Chandler Hill, the north side of Oak Hill, along the Bloomingdale Road, and at the north end of Pakachoag. The examination of glaciated rocks, and other outcrops and exposures in this vicinity, reveals some interesting facts concerning the methods by which rocks now are decomposing and breaking down into soils. These processes, in part, must have also been pre-glacial.

First, I hold here in my hand a piece of trap rock which comes from the summit of Mt. Holyoke. You see how on the weather side it has rotted, changing in color from dark gray to brown, and growing softer and more crumbly. The iron in the pyroxene has separated from the quartz and become an oxide, rust. But if this fragment had been a foot or two underneath the soil where vegetable tissue is decaying it would have rotted four to ten times as rapidly. This other pebble of the same kind has been thus buried and a part has flashed off. This trap is found here and there in stone fences, and is called ironstone. Here is another triangular fragment from Millstone Hill.

This rock is eruptive granite, and full of minute crystals of pyrite. Wherever this is exposed to the action of air and carbon dioxide dissolved in water, as adjacent to fissures, it is oxidized and the stone is colored brown, becomes brittle and easily breaks. This is one of the most common causes of the disintegration of rocks, all over the world.

Another is where rocks containing other iron bearing minerals are decomposed through changes similar to those which break down trap rocks. Hornblende and mica are such minerals, and the rocks of all the mountains of the South are breaking down into the red soils seen everywhere in Virginia, North Carolina and Georgia. These are specimens. One is of tough elastic mica, another is from the Blue Ridge near Asheville, N. C. It powders between the fingers like chalk. A third, almost as soft, is a mineral called vermiculate, an

altered mica which contained less iron. It came from the bank of the Blackstone in Millbury, twelve feet below the surface.

A third method is where the feldspar of our granites and gneisses, under the action of water saturated with organic acids, loses its potash and soda, and either changes to other minerals, or breaks down to a fine clay called kaoline. The quartz, if coarsely crystalline, stands up in ridges under this action, or, if fine, breaks into sand. In time the sand washes away and the clay rolls over a little and sticks.

In the same way the sand and gravel is washed off from moraines and covers the low ground or is transported by streams. (The hills about Worcester are clayey, the valleys sandy).

The mechanical force of water, the expanding power of freezing water, and the heat of the sun also are agencies at work in reducing rocks to soils. Winds as well as water transport sand and scour the faces of outcrops, and at the same time reduce to greater fineness the transported material. These used to be thought the most efficient agencies in soil making. But in my judgment, except in the case of shaly rocks, frost plays no very important part.

Here in Worcester on Oak Hill is a glaciated surface of rock, never very hard or compact, and the strata of which are presented almost edgeways to the surface. The soil on that hill can never have been deep, and now averages, for two or three acres on the top, not over five or six inches in depth. But wherever thus covered, the glacial grooves and scratches are scarcely weathered at all. They are nearly as distinct as ever, and yet they cannot have been made much less than 7000 years ago.

At the same time another fragment, taken from a ledge in Southbridge, was polished almost as smooth as glass. The upper surface is intact. Two inches below it is crumbling to dust. The latter specimen was buried; the former, from Oak Hill, was almost bare. A third illustration is found in the character of the excavation for the foundation of the main building of Clark University. Here the hydro-mica schist, just the same rock as that which outcrops on the hill back of the Oread Institute, was found, for several feet in depth, to be so rotten that the shovel was easily thrust into it. Why should this under four or five feet of soil be decomposed, while a really more fragile rock on Oak Hill should bear its scars of seventy centuries. There are two reasons: First, the glaciated rock is by the immense weight and enormous grinding force solidified on the surface. Cracks are filled. The surface is made water proof. Secondly, the growth of vegetation there was scanty, the products of decay escaped into

the air,—no acids were formed underneath which could attack the surface of the rock below. Freezing moreover did not affect it. So at Southbridge with this difference, that crevices here and there admitted the acidulated waters and, as soon as the rock was sufficiently porous to admit any considerable amount, that portion underneath went to powder. But on the other hand, at the south end of Woodland Street, where there were several feet of glacial deposit, strong trees grew, died and were buried. The roots decayed under the soil, the acids resulting devoured the clay and mica, and the quartz grains became as isolated and lonely as estranged friends that never greet one another.

This is the way, too, in which chiefly the boulders and pebbles under the surface are disintegrating and adding to the soil. If we dig them out and pile them in heaps or in lines of wall, they will last next to forever; if we keep them buried deeply enough and keep something growing over them, they will add to our soil and in many cases improve the quality. I have not alluded directly to the soil as enriched by organic matter. This is so well understood that I have not thought it worth while to spend time upon it. But what the glaciers have done for us roughly on a grand scale in some regions, we need to do more in our gardens and meadows—that is we must for the best results mix our soils, put lime on clay, and clay on sand, and sand on the cold bogs. Coal ashes, for example, are of little immediate value, but if mixed with clayey or gravelly soils in the proportion of not over an eighth part, are sure to bring forth fruit in old age if not earlier, and are, for fruit trees and grape-vines, specially valuable fertilizers. Hypothesis and experiment are valuable in horticulture, but the basis after all must be what nature, God's work, furnishes for us, and the processes initiated in her laboratory are worthy of careful study, and are sometimes the only methods by which we may profitably wrest from her bosom sustenance for man and beast.

16th March, A. D. 1893.

ESSAY

BY

MRS. E. M. GILL, OF MEDFORD.

Theme:—"The Arrangement of Cut Flowers, with Practical Illustrations."

Mr. President, Ladies and Gentlemen:

I have been invited by a committee of your society to give a little talk on the arrangement of cut flowers and to illustrate the same. I come before you with considerable hesitancy, knowing that some of you are practical florists and that the ladies of this society are artistic in their floral arrangements, and because I am no essayist. Of the many ways in which we can put flowers together, loosely or tied in a bunch, in a flat or round bouquet, basket, vase or table design, I have chosen a basket, which I will make later, as the most common and desirable form, and which will answer the greatest number of decorative purposes in our homes. Of the many designs used for funerals it will not be necessary here to speak. Fashions in flowers, as in everything else, are constantly changing. Twenty years ago a simple wooden cross of the Roman form, painted white or covered with white paper, over which was thrown a wreath of mixed flowers, generally made on a string or wire, with flowers and vines around the base, and suspended over it a dove with outstretched wings was thought to be beautiful enough to decorate the altar on Easter morning, and to my taste its simplicity is more appropriate than the huge clumps of palms and pot plants placed together in solid masses that of late years I have been accustomed to see. If you wish to make a large cross for church use a wire frame filled with moss, into which put the large, delicate, lavender-colored clematis, that grows around your piazza in summer, and you will have a beautiful design.

Wild flowers make an attractive vase or basket, but are best put by themselves. If you have a large stand or bank of flowers to arrange

the wild roadside clematis is however a very desirable addition to other trailing vines. As we discriminate in drawing friends together for a party or social meeting, so must we choose in putting kinds of flowers together. Very large and very small ones do not look well together. This must be taken with a grain of salt as we say, and I do not state it as an absolute rule. Sometimes the color of one will not look well with another color. This difficulty can be nicely overcome by placing plenty of green and white between. The trouble with a great many that we might call old-fashioned bouquets was, that the flowers were crowded and pushed together, one close upon another, without green enough. One well-known gentleman of the Massachusetts Horticultural Society holds that all colors, tints and shades can be used together, and himself arranges a beautiful basket. Others fail to produce a pleasing result if too great a variety is at hand. The effect produced in the arrangement of flowers, as with the oils to paint a picture, depends many times more upon the taste of the florist or painter than the supply at hand. Sometimes it is best to have one prevailing color, say red or pink. Ribbon is much used now, and a bow on a basket, or bow and ends around a bunch of mixed flowers, or of roses or of pinks alone, seems admissable and if the latter is to be carried in the hand, it certainly gives a pretty effect to a lady's toilet. How we shall arrange flowers depends upon the place where we are to put them. Whether high up on a mantel or low on the floor. Whether we look up to them or down upon them. I do not think a mantel should be too heavily loaded with flowers or a glass hidden from view by them. We should make our work an adornment, not a misplacing of something else. Short-stemmed flowers can be used in a basket or frame filled with moss, but for a vase we need long stems. In both cases the flowers must be wired to stand well. A vase is much harder to arrange than a basket. It stands higher and is thus more conspicuous, and any defect in the symmetry of arrangement is quickly noticed. Even with choice flowers one may only succeed in making a failure, so to speak. The spring bulbs grown in the garden and also forced in the greenhouse, when cut, appear to best advantage loosely put in a vase or bowl. A *few* might be used in a vase or basket with other flowers. A flat basket of all yellow tulips or of daffys is especially appropriate for a golden wedding or yellow spread, the color being so much deeper and richer than in roses of that hue. The flowers, too, of fall, large in size and gorgeous in color, zinnias, marigolds, helianthus, salvia and dahlias, as cut flowers give the best effect when used in separate

bunches. Their great masses of blooms are suitable for house or church decorations as now understood, on the walls and mantels, rather than in baskets for the table. The anemone, a fall flower, is delicate and beautiful enough to be used in any way or with anything. Fashion demanding at present that chrysanthemums shall be grown on long stems with huge blooms, makes these flowers best serve for decorative puposes, in masses by themselves. Fine effects can be obtained by placing all colors together. The small white ones are very suitable in frame designs. An appropriate arrangement of chrysanthemums is in a large hollowed-out yellow pumpkin instead of a vase, especially suitable at a Thanksgiving feast. The idea is not original, but that of a Philadelphia florist modified.

The flowers that we have to use at this season are those of the greenhouse, roses, pinks, violets, bouvardia, smilax, ferns and asparagus, and if you are very fortunate, orchids. But when summer supplies not only these, but all the others of our gardens, then we have at hand all possible material, and our work becomes easier in the great abundance at hand. Galium and gysophila give a very graceful effect with but few touches, and a bunch of sweet peas with either one of these is a charming floral piece. For light delicate foliage I prefer maiden-hair fern to either smilax or asparagus, which last seems now to be taking the place of smilax largely. It has the merit of lasting well.

Nasturtiums always put by themselves or with a few of their own leaves. A bowl of these flowers is a beautiful bit of color, but add other flowers and see the result. Their brittle stems stand in the way of placing them in any other way than in a dish loosely. The summer flowers being small we can use a greater variety together. Prove this for yourselves, by going about your garden cutting here and there, then notice the bunch in your hand. For a frame design or basket you want the moss packed in hard, tied down well and nicely trimmed off. The wild ferns, hard ferns we call them, are used now as the background of all florists' work. To make a basket we will begin by putting around the edge our heavy large leaves.

[And the rest of her time was spent by Mrs. Gill in practical illustration of her ideas.—E. W. L.]

LIST OF FRUITS RECOMMENDED BY THE SOCIETY.

APPLE.

For General, or Market, Culture.

EARLY.

Astrachan.**
Oldenburg.**
Sweet Bough.
Williams.

AUTUMN.

Fameuse.
Golden Sweet.
Gravenstein.***
Holden.*
Hubbardston.*
Leland's Spice.

WINTER.

American Beauty.
Baldwin.***
King.
Leicester Sweet.
Northern Spy.
Palmer.*
Roxbury Russet.
Rhode Island Greening.*
Sutton Beauty.

Best 5.

Baldwin.
Gravenstein.
Oldenburg.
Palmer.
Rhode Island Greening.

For Amateur Culture.

Belleflower.
Foundling.
Maiden's Blush.
McLellan.*
Porter.
Somerset.
Sour Bough.
Wealthy.*
Worcester Spy.
Yellow Transparent.

PEAR.

For General and Market Culture.

Anjou.
Bartlett.
Bosc.
Dana's Hovey.
Giffard.
Seckel.
Sheldon.

For Amateur Culture.

Angoulême.
Clapp.
Comice.
D'Été.
Earle's Bergamot.
Frederick Clapp.
Josephine de Malines.
Lawrence.
Louise Bonne de Jersey.
Lucrative.
Marguerite.
Mount Vernon.
St. Ghislain.
Winter Nelis.

Promising Well.

Ansault.
Dr. Reeder.

PEACH.

For General, or Market, Culture.

Amsden's June.
Cooledge.
Crawford's Early.
Foster.
Oldmixon.

Promising Well.

Crosby.

QUINCE.

For General, or Market, Culture.

Orange.

For Amateur Culture.

Champion.

PLUM.

For General, or Market, Culture.

Bradshaw.
General Hand.
Imperial Gage.
Lombard.
Quackenboss.

Recommend for Trial.

Japanese Varieties.

CHERRY.

For General, or Market, Culture.

Black Tartarian.
Coe's Transparent.
Downer's Late.
Elton.
Governor Wood.

For Amateur Culture.

Montmorency.

GRAPE.

For General, or Market, Culture.

Brighton.
Concord.
Delaware.
Green Mountain—White.
Worden.

For Amateur Culture.

Diana.
Lindley.
Massasoit.
Rogers No. 3.
Rogers No. 9.

CURRANT.

RED.

Dutch.
Fay.
Versaillaise.

WHITE.

Grape.
Dutch.

GOOSEBERRY.

Downing.
Houghton.
Industry.

STRAWBERRY.

For General, or Market, Culture.

Belmont.
Bubach.
Charles Downing.
Miner's Prolific.
Sharpless.

For Amateur Culture.

Beder Wood.
Jessie.
Leader.
M. A. C. No. 24.
Warfield.

RASPBERRY.

For General, or Market, Culture.

Brandywine.
Cuthbert.
Golden Queen.
Shaffer.
Turner.

For Amateur Culture.

Caroline.
Hornét.
Hudson River Antwerp.

BLACK CAP.

For General, or Market, Culture.

Davison.
Doolittle.
Gregg.
Mammoth Cluster.
Souhegan.

BLACKBERRY.

Agawam.
Early Harvest.
Minnewaska.
Snyder.
Wachuset.

APPENDIX.

BY-LAWS

OF THE

Worcester County Horticultural Society.

ANNUAL MEETING.

ARTICLE 1. There shall be an Annual Meeting of the Society to be held on the first Wednesday in November of each year.

MEMBERSHIP.

ARTICLE 2. Any male person may become a Member of the Society on payment of the sum of Five Dollars; females upon the payment of Three Dollars. Honorary Members may be admitted by vote of the Society or of the Trustees, but shall not have the right to vote at any Business Meeting.

OFFICERS.

ARTICLE 3. The Officers of the Society shall consist of a President, three (3) Vice-Presidents, a Secretary, a Librarian, and a Treasurer —(all of whom shall be Trustees *ex-officiis*).

The Officers are to be elected by ballot, to hold their offices until the next annual election, or until others are chosen in their places, and to discharge the duties of their respective offices.

MEETINGS OF THE SOCIETY.

ARTICLE 4. All meetings of the Society shall be called by giving not less than one (1) week's notice in at least one newspaper published in the City of Worcester. Special Meetings of the Society shall be called at any time, on the application of five (5) members

therefor. And at all meetings of the Society, seven (7) shall constitute a quorum for the transaction of business.

SECRETARY.

Article 5. His Duties: The Secretary shall keep records of all business transacted at the meetings of the Society and of the Trustees, and also of the admission of members, and he shall call and notify meetings of the Society and of the Trustees, and shall notify persons chosen to office in the Society of their election and the Committees of their appointment, and shall attend to the correspondence of the Society.

TREASURER.

Article 6. His Duties: The Treasurer shall, at each Annual Meeting of the Society, make a Report of his receipts and expenditures on account of the Society, and the condition of its finances, and exhibit his accounts. And a Committee shall be annually appointed by the Trustees to examine and audit his accounts and to report thereon. The Treasurer shall give bonds to the acceptance of the Trustees of the Society for the faithful discharge of the duties of his office.

TRUSTEES.

Article 7. Their Number: The Trustees shall consist of any number not less than twenty-five (25) exclusive of the officers, who are Trustees *ex-officiis*—and the exact number of Trustees for the year ensuing, shall be determined at each Annual Meeting.

Their Powers: The Trustees shall have the general charge and direction of the affairs and business of the Society, its funds and property, so far as not otherwise provided for in the By-Laws or at the meetings of the Society; and may appoint one or more exhibitions of Flowers, Fruit or Vegetables in each year, and make all arrangements therefor and for conducting the same, including the appointment of Committees; and may establish premiums and provide for awarding the same, and shall direct the disposal of all articles of a vegetable growth which may be presented to the Society, including the distribution of Seeds, Cions and Cuttings, Layers and Roots.

Their Meetings—Quorum: At all meetings of the Trustees seven (7) shall constitute a quorum for the transaction of business; and a meeting of the Trustees may at any time be called, on the application

of three (3) members of the board to the President of the Society; and all meetings of the Trustees shall be called by the Secretary. There shall be stated meetings of the Trustees, to be held once in three (3) months.

FINANCE COMMITTEE.

ARTICLE 8. There shall be chosen at the Annual Meeting of the Society a Committee of three (3), one member thereof to be elected each and every year, to hold office for the term of three years; said Committee, subject to the control and supervision of the Trustees, shall have the general care and oversight of the lands, buildings and other property of the Society; shall approve all bills against the Treasury before being paid by the Treasurer, except money awarded for Premiums, and shall authorize the Treasurer to invest, for the benefit of the Society, in one or more of the Savings Banks of the City of Worcester, any money not appropriated or necessary for the current expenses of the Society.

AMENDMENTS.

ARTICLE 9. The By-Laws may be altered or amended at the Annual Meeting of the Society, by a vote of two-thirds ($\frac{2}{3}$) of the members present; provided, that previous notice shall have been given in the call for the Annual Meeting that the subject of an alteration of the By-Laws is to come before the Society at that meeting.

SCHEDULE OF PREMIUMS

OFFERED BY THE

WORCESTER COUNTY HORTICULTURAL SOCIETY,

FOR THE YEAR

1893.

The attention of Exhibitors is particularly called to the Rules and Regulations, General and Special.

Worcester, Mass.
CHARLES HAMILTON, PRINTER,
311 MAIN STREET.
1893.

COMMITTEE
ON
ARRANGEMENTS AND EXHIBITIONS.

JAMES DRAPER, *Chairman.*

O. B. HADWEN,	WILLIAM H. EARLE,
F. M. MARBLE,	HERMANN F. A. LANGE,
O. B. WYMAN,	CHARLES GREENWOOD,
CALVIN L. HARTSHORN,	H. B. WATTS,
CHARLES E. PARKER,	J. L. PETERS,
EDWARD HALL,	GEORGE C. RICE,
ADIN A. HIXON,	WILLIAM H. JOHNSON.

President, - - HENRY L. PARKER.

Secretary, EDWARD W. LINCOLN,
Nos. 5 Oak and 18 Front Sts.

JUDGES OF AWARD.

FLOWERS, PLANTS, ETC.—William H. Johnson.
FRUITS, ETC.—James Draper.
VEGETABLES, ETC.—Charles Greenwood.

COMMITTEE ON NOMENCLATURE.

James F. Allen,	James Draper,
Hermann F. A. Lange,	Charles Greenwood,
George E. Francis,	F. M. Marble,
O. B. Hadwen,	Edward W. Lincoln.

GENERAL RULES FOR ALL EXHIBITIONS.

A. Strict conformity to the Regulations and Rules will be expected and required, as well for the benefit of Exhibitors as for the convenience of the Officers of the Society.

B. Correct and legible names must be attached to each and every Flower or Plant entered in a class of named varieties.

C. All articles offered for premium must remain within the Hall throughout the hours of Exhibition, unless special permission for their removal shall be granted by the Committee on Exhibitions, etc.

D. All *Small Fruits* must be entered in boxes or baskets (except in the case of Strawberries or Currants, which are to be shown "*flat*"); but they may be displayed subsequently in plates or dishes, at the taste of the exhibitor.

E. No person shall take more than one premium, under the same number.

F. The Judges may correct, before the close of any Exhibition, awards made by them, if satisfied that such were erroneous.

G. The cards of competitors shall be put, reversed, beneath the plates; and the Judges of award shall be excluded from the Hall of Exhibition until the Exhibition itself is ready for judgment.

H. Competitors are expected to conform strictly to the conditions under which articles are invited. Evasion or violation of them may be reported to the TRUSTEES for future disqualification of the offender.

RULES AND REGULATIONS.

1. Exhibitions will be held on Thursday, March 9, April 13 and May 11. Commencing June 8, there will be Exhibitions every Thursday, excepting July 6, until and including October 26, A. D. 1893. The hours of Exhibition will be between 3 and 4.30 o'clock. Articles offered for premium must be in the Hall by 2.15 o'clock P. M. of the days of Exhibition. Between

2.15 and 3 o'clock the Hall will be in exclusive charge of the Secretary and the Janitor, who will allow no one else to be present. The Judges of the Award may be admitted under the limitations of GENERAL RULE G.

2. Competition for premiums is open to all; but a discount of one-third of the amount will be made from awards to persons who are not members of the Society; and it is strictly required that all specimens offered for premium shall have been grown by the competitors, on their own premises, *within the County of Worcester*, for a period of at least two (2) months previous to the date of exhibition.

3. After the articles are arranged they will be under the exclusive charge of the Judges, and *not even the owners* will have liberty to *remove* them until the exhibition is closed; when they will be delivered as the contributors may direct.

4. No cards of a business nature will be allowed in any exhibition.

5. Where a certain number or quantity of Plants, Flowers, Fruits or Vegetables is designated in the schedule, there must be neither more nor less than that number or quantity of specimens shown; and in no case can any other varieties than those named in the schedule be substituted.

6. It will be the duty of the Judges to *exclude from competition all inferior specimens*. Also, all such *Designs* as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making Awards, will especially regard uniformity in size, symmetry of form, and beauty in color.

7. The Committee on Arrangements have power to change the time of exhibition for any article, if an earlier or later season renders such change necessary; and the Secretary is requested to give notice of one week, in some daily paper, and also at the preceding exhibition, when a change in the Schedule is proposed.

8. All articles offered for premium must be correctly named. Indefinite appellations such as "Pippin," "Sweeting," "Greening," etc., will not be considered as names. Any person exhibiting the same variety of Fruit or Vegetable, under different names, or exhibiting as grown by himself, Flowers, Fruit, or Vegetables grown by another, thereby violating the objects and rules of the Society, shall be debarred from competing for the Society's premiums until reinstated.

9. No Flowers, Plants, Fruits or Vegetables will be entitled to a premium unless they possess points of superiority; and the Judges are *strictly required* to withhold premiums if, in their opinion, the articles exhibited do not merit them; nor shall any specimen for which a premium has been once awarded, receive another during the season.

10. Competitors will be required to furnish information as to their mode of cultivation, and to present specimens, for trial and examination, if requested.

11. In all exhibitions of Cut Flowers, for competition, the use of foliage must be restricted to that of the varieties shown; and not more than three blooms, clusters, sprays or spikes, all which shall be of one color, and of one variety, shall be allowed in the same bottle, or vase, except when otherwise specified in the schedule.

12. No Judge shall award a premium or gratuity in any case wherein he is a competitor, or has an actual or resultant interest; in any such case the judgment shall be rendered by any three of the Committee on Arrangements and Exhibitions whom the Judge shall invite.

13. No Judge shall require anything of competitors respecting their exhibits, which is not distinctly specified in the schedule. No Flowers, Fruits, etc., etc., shall be put on the tables, for competition for premiums, by any person who is a judge as to the awards to be made for Fruits, Flowers, etc., etc.

14. The standard number required for an exhibit, whether of Fruits or Vegetables, will be twelve (12); unless otherwise specifically declared. The usual limit of measure, save for SMALL FRUITS, will be a half-peck.

15. All premiums that are not claimed within three months after the close of the official year shall be forfeited to the Society.

16. The awards will be made known as soon as the cards can be filled out and placed upon the table.

17. "Downing's Fruits of America," revised edition, will guide the Judge of Fruits in his decisions upon matters at issue.

☞ The judges are authorized by the Trustees, to invite the assistance of competent and discreet persons in the discharge of their duties.

FLOWERS, PLANTS, FRUITS & VEGETABLES.

A. D. 1893.

☞ The Committee on Arrangements and Exhibitions would direct the earnest attention of the Judges to *Rule 6!*

6. *It will be the duty of the Judges to exclude from competition all inferior specimens. Also, all such designs as, in their opinion, evince an incorrect taste. The Judge of Fruits, in making awards, will especially regard uniformity in size, symmetry of form, and beauty in color.*

FLORAL. Special Rule.—In all cases where dimensions are prescribed for exhibits, the measure shall be understood to be that of the flowers solely; never admitting the basket, foliage, or any garniture of green.

Thursday, March 9.

☞ *The* Committee on Arrangements and Exhibitions *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

HYACINTH,—in bloom.—					
No. 1.	One plant, two premiums			$1 00	50
No. 2.	Six plants, four premiums	3 00	2 00	1 00	50
PRIMULA SINENSIS,—in bloom.—					
No. 3.	Four plants, four premiums	3 00	2 00	1 00	50
No. 4.	One plant, two premiums			1 00	50
PRIMULA,—any other variety,—in bloom.—					
No. 5.	Four plants, four premiums	3 00	2 00	1 00	50
CINERARIA,—in bloom.—					
No. 6.	Four plants, distinct in color, four premiums	3 00	2 00	1 00	50
CYCLAMEN,—in bloom.—					
No. 7.	Four plants, four premiums	3 00	2 00	1 00	50
No. 8.	One plant, three premiums		1 50	1 00	50

ARUM (RICHARDIA),—IN BLOOM.—

No. 9.	Best collection; grown in a pot, or tub, not exceeding 16 in. in diameter, four premiums	3 00	2 00	1 00	50
No. 10.	One bloom, with foliage (the largest), two premiums			1 00	50

AZALEA INDICA,—IN BLOOM.—

No. 11.	One plant, two premiums			3 00	2 00
No. 12.	Three plants, four premiums	5 00	3 00	2 00	1 00

CUT FLOWERS.—

No. 13.	Twenty blooms (clusters, sprays or spikes in vases), four premiums	3 00	2 00	1 00	50

BOUQUET—(HAND).—

No. 14.	Not more than 9 in. in diameter, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 15. Any variety, named, gratuity.

PEAR.—

No. 16. Any variety, named, gratuity.

VEGETABLE.—

CABBAGE,

No. 17.	Brunswick, 3 specimens, three premiums	$1 50	1 00	50	
No. 18.	Red, 3 specimens, three premiums	1 50	1 00	50	
No. 19.	Savoy, 3 specimens, three premiums	1 50	1 00	50	

CELERY,

No. 20.	Six specimens, three premiums	1 50	1 00	50	

SQUASH,

No. 21.	Bay State, 3 specimens, three premiums	1 50	1 00	50	
No. 22.	Hubbard, 3 specimens, three premiums	1 50	1 00	50	
No. 23.	Marblehead, 3 specimens, three premiums	1 50	1 00	50	

TURNIP,

No. 24.	Swede, Yellow, 6 specimens, three premiums	1 50	1 00	50	
No. 25.	Swede, White, 6 specimens, three premiums	1 50	1 00	50	
No. 26.	White Egg, 12 specimens, three premiums	1 50	1 00	50	

BEET,

No. 27. Turnip, three premiums..... 1 50 1 00 50

CARROT,

No. 28. Intermediate, three premiums..... 1 50 1 00 50

LETTUCE,

No. 29. Six heads, three premiums..... 2 00 1 50 1 00

Thursday, April 13.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS—BASKET.—

No. 30. No restrictions, four premiums ...$3 00 2 00 1 00 50

ZONALE GERANIUM,—IN BLOOM.—

No. 31. Four plants, distinct in color, four premiums 3 00 2 00 1 00 50

CUT FLOWERS.—

No. 32. Twenty vases, not to exceed 5 blooms, clusters, sprays or spikes in each, four premiums 3 00 2 00 1 00 50

HYACINTH.—IN BLOOM.—

No. 33. Twelve plants, not less than 6 varieties, four premiums..... 4 00 3 00 2 00 1 00

NARCISSUS,—DISPLAY.—

No. 34. Four premiums 4 00 3 00 2 00 1 00

TULIP.—

No. 35. Four pots or pans, not to exceed 12 bulbs in each, not less than three varieties, four premiums.. 4 00 3 00 2 00 1 00

APPLE.—

No. 36. Any variety, named, gratuity.

PEAR.—

No. 37. Any variety, named, gratuity.

VEGETABLE.—

HORSE RADISH,

No. 38. Three premiums $1 50 1 00 50

PARSNEP,

No. 39.	(Hollow Crown), three premiums	1 50	1 00	50
No. 40.	(Student), three premiums	1 50	1 00	50

RADISH,

No. 41.	Two bunches (6 in each bunch), three premiums	1 50	1 00	50

SALSIFY,

No. 42.	Three premiums	1 50	1 00	50

LETTUCE,

No. 43.	Six heads, four premiums	2 00	1 50	1 00	50

RHUBARB,

No. 44.	Same variety, three premiums	1 50	1 00	50

DANDELION (cultivated),

No. 45.	One-half peck, three premiums	1 50	1 00	50

SPINACH,

No. 46.	One-half peck, three premiums	1 50	1 00	50

Thursday, May 11.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

PANSY,—NO DUPLICATES.—

No. 47.	One stand, one stem in a vial, four premiums	$3 00	2 00	1 00	50
No. 48.	Six plants in bloom, distinct in color, exhibited in pots, four premiums	3 00	2 00	1 00	50

BOUQUET,—HAND.—

No. 49.	Not to exceed 9 inches in diameter, four premiums	3 00	2 00	1 00	50

HYACINTH,—OPEN CULTURE.—

No. 50.	Display in vases, four premiums	3 00	2 00	1 00	50

PELARGONIUM—(FANCY AND SHOW)—IN BLOOM.—

No. 51.	Four plants, of distinct varieties, four premiums	3 00	2 00	1 00	50

TULIP,—OPEN CULTURE.—

No. 52.	Display, not to exceed 25 vases, four premiums	3 00	2 00	1 00	50
No. 53.	Vase of blooms, all of one color, three premiums		2 00	1 00	50

CUT FLOWERS.—

No. 54.	Stand, no restrictions, four premiums	3 00	2 00	1 00	50
No. 55.	Basket, no restrictions, four premiums	3 00	2 00	1 00	50

AZALEA—(MOLLIS).—

No. 56.	For the best display in vases, four premiums	3 00	2 00	1 00	50

VEGETABLE.—

ASPARAGUS,

No. 57.	Two bunches, three premiums	$1 50	1 00	50	

DANDELION,

No. 58.	Cultivated. half-peck, three premiums	1 50	1 00	50	

ONION,

No. 59.	Two bunches, six in each bunch, three premiums	1 50	1 00	50	

RADISH,

No. 60.	Three premiums	1 50	1 00	50	

RHUBARB,

No. 61.	Linnæus, three premiums	1 50	1 00	50	
No. 62.	Victoria, three premiums	1 50	1 00	50	

SPINACH,

No. 63.	Half-peck, three premiums	1 50	1 00	50	

Thursday, June 8.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at* $3\frac{1}{2}$ *o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS,—

No. 64.	STAND,—no restrictions, four premiums	$3 00	2 00	1 00	50

NATIVE FLOWERS.—

No. 65. STAND,—no restrictions, four premiums	3 00	2 00	1 00	50
No. 66. ONE VASE,—the specimens not to be tied or wired, three premiums.		2 00	1 00	50

BEGONIA,—IN BLOOM.—

No. 67. One plant, four premiums	3 00	2 00	1 00	50

IRIS.—

No. 68. Ten vases, four premiums	3 00	2 00	1 00	50

CLEMATIS.—

No. 69. Display, in vases, two premiums			2 00	1 00

FUCHSIA,—DISTINCT VARIETIES.—

No. 70. Four plants in bloom, four premiums	3 00	2 00	1 00	50

RHODODENDRON.—

No. 71. Display, in vases, four premiums	3 00	2 00	1 00	50

AZALEA.—GHENT.—

No. 72. Display, in vases, four premiums	3 00	2 00	1 00	50

CUT FLOWERS.—

No. 73. From hardy plants and shrubs, display not to exceed 25 vases, four premiums	3 00	2 00	1 00	50

VEGETABLE.—

ASPARAGUS,

No. 74. Two bunches, three premiums	$1 50	1 00	50	

BEET,

No. 75. Early, twelve specimens, three premiums	2 00	1 50	1 00	

CUCUMBER,

No. 76. Three specimens, three premiums	1 50	1 00	50	

SPINACH,

No. 77. Half-peck, three premiums	1 50	1 00	50	

Thursday, June 15.

HYDRANGEA,—ONE PLANT IN BLOOM.—

No. 78. Hortensis, three premiums	$2 00	1 00	50	
No. 79. Otaksa, three premiums	2 00	1 00	50	
No. 80. Thomas Hogg, three premiums	2 00	1 00	50	

BASKET.—No restrictions.

No. 81.	AMATEUR,—four premiums	3 00	2 00	1 00	50
No. 82.	FLORIST,—four premiums.....	3 00	2 00	1 00	50

BOUQUET.—PARLOR.—

No. 83.	AMATEUR,—four premiums	3 00	2 00	1 00	50
No. 84.	FLORIST,—four premiums	3 00	2 00	1 00	50

STRAWBERRY.—

No. 85. Any variety, gratuity.

VEGETABLE.—

PEA,

No. 86.	One half-peck, four premiums	$2 00	1 50	1 00	50

LETTUCE,

No. 87.	Six heads, three premiums		1 50	1 00	50

Thursday, June 22.

CUT FLOWERS,—IN VASES.—

No. 88.	For the best display (no duplicates), five premiums ..	$5 00	3 00	2 00	1 00	50

Digitalis. (FOXGLOVE.)

No. 89.	Display, three premiums.....			2 00	1 00	50

Campanula Media. (CANTERBURY BELL).

No. 90.	Display, three premiums			2 00	100	50

Dianthus Barbatus. (SWEET WILLIAM).

No. 91.	Stand, four premiums.....		3 00	2 00	1 00	50

Pœonia.

No. 92.	Twenty vases, four premiums.....		3 00	2 00	1 00	50

STRAWBERRY.—

No. 93.	Bidwell, 24 berries, flat, three premiums			$1 50	1 00	50
No. 94.	Bubach, 24 berries, flat, three premiums			1 50	1 00	50
No. 95.	Charles Downing, 24 berries, flat, four premiums		2 00	1 50	1 00	50
No. 96.	Crescent, 24 berries, flat, three premiums.....			1 50	1 00	50

No. 97.	Sharpless, 24 berries, flat, four premiums	2 00	1 50	1 00	50
No. 98.	Other varieties, not scheduled, 24 berries, flat, gratuity.				

VEGETABLE.—

PEA,

No. 99.	Any variety, named, one-half peck, three premiums	$2 00	1 50	1 00	

Thursday, June 29.

☞ This exhibition will be open to the public from 3 P. M. until 5.30 P. M.

ROSE.—

[TO BE SHOWN IN THE VASES OF THE SOCIETY.]

No. 100.	Best twelve blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums	$4 00	3 00	2 00	1 00
No. 101.	For the best six blooms or clusters of distinct named varieties of H. P. Roses, outdoor culture, four premiums	$4 00	2 00	1 00	50
No. 102.	For the best stand of Roses, four premiums	3 00	2 00	1 00	50
No. 103.	Moss Roses. Best display, four premiums	3 00	2 00	1 00	50
No. 104.	For the best basket or dish of Roses, three premiums		2 00	1 00	50

STRAWBERRY.—

No. 105.	Belmont, 24 berries, flat, three premiums.		1 50	1 00	50
No. 106.	Jersey Queen, 24 berries, flat, three premiums		1 50	1 00	50
No. 107.	Jewell, 24 berries, flat, three premiums.		1 50	1 00	50
No. 108.	Jucunda, 24 berries, flat, three premiums		1 50	1 00	50
No. 109.	Manchester, 24 berries, flat, three premiums		1 50	1 00	50
No. 110.	Miner, 24 berries, flat, three premiums.		1 50	1 00	50

No. 111.	Triomphe de Gand, 24 berries, flat, three premiums		1 50	1 00	50
No. 112.	Other varieties, not scheduled, 24 berries, flat, gratuity.				

CHERRY.—

No. 113.	Any variety, named, one-quart, four premiums	2 00	1 50	1 00	50

VEGETABLE.—

BEAN—(Snap),

No. 114.	Green Pod, one-half peck, three premiums		2 00	1 50	1 00

BEET,

No. 115.	Turnip-rooted, 12 specimens, three premiums		1 50	1 00	50

PEA,

No. 116.	McLean's Advancer, one-half peck, three premiums		2 00	1 50	1 00

Thursday, July 13.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P. M. to hear motions, determine appeals, and act upon business properly submitted.*

ZONALE GERANIUM,—IN VASES.—

No. 117.	For the best display (no duplicates), 1 truss in a vase, four premiums	$3 00	2 00	1 00	50
No. 118.	LILLIUM CANDIDUM. 12 spikes, four premiums	4 00	3 00	2 00	1 00

GLOXINIA,—POTS.—

No. 119.	Four varieties, in bloom, four premiums	4 00	3 00	2 00	1 00

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 120.	24 vases, four premiums	3 00	2 00	1 00	50

IRIS KÆMPFERI.

No. 121.	20 vases, one spike in each, four premiums	3 00	2 00	1 00	50

RASPBERRY.—

No. 122.	Brandywine, one quart, three premiums.	$1 50	1 00	50
No. 123.	Cuthbert, one quart, three premiums...	1 50	1 00	50
No. 124.	Hansell, one quart, three premiums....	1 50	1 00	50
No. 125.	Hudson River Antwerp, one quart, three premiums.....	1 50	1 00	50
No. 126.	Marlboro', one quart, three premiums..	1 50	1 00	50
No. 127.	Northumberland, one quart, three premiums	1 50	1 00	50
No. 128.	Turner, one quart, three premiums	1 50	1 00	50
No. 129.	Other varieties, not scheduled, gratuity.			

RASPBERRY,—Blackcap.—

No. 130.	Davidson, one quart, two premiums.....	$1 00		50
No. 131.	Doolittle, one quart, two premiums.....	1 00		50
No. 132.	Gregg, one quart, two premiums	1 00		50
No. 133.	Mammoth Cluster, one quart, two premiums...	1 00		50
No. 134.	Souhegan, one quart, two premiums	1 00		50
No. 135.	Other varieties, not scheduled, gratuity.			

CHERRY.—

No. 136.	Any variety, named, one quart, four premiums	$2 00	1 50	1 00	50

STRAWBERRY.—

No. 137. Any variety, 24 berries, flat, gratuity.

VEGETABLE.—

Pea,

No. 138.	Champion of England, three premiums.	$2 00	1 50	1 00
No. 139.	Stratagem, three premiums.....	2 00	1 50	1 00
No. 140.	Yorkshire Hero, three premiums.....	2 00	1 50	1 00
No. 141.	Other varieties, not scheduled, gratuity.			

Cabbage,

No. 142. Three specimens, gratuity.

Potato,

No. 143.	Any named variety, 12 specimens, three premiums.....	2 00	1 50	1 00

Bean,

No. 144.	Wax—(snap),—three premiums	2 00	1 50	1 00

Thursday, July 20.

CUT FLOWERS,—SEEDLINGS OF 1893.

No. 145.	Display in vases, four premiums.	$3 00	2 00	1 00	50

BASKET,—No restrictions.

No. 146.	AMATEUR,—four premiums.....	3 00	2 00	1 00	50
No. 147.	FLORIST,—four premiums.....	3 00	2 00	1 00	50

PETUNIA,—One spray in each vial.

No. 148.	Stand, four premiums	3 00	2 00	1 00	50

CURRANT.—

No. 149.	Fay, 24 bunches, three premiums.		1 50	1 00	50
No. 150.	Red Dutch, 24 bunches, four premiums	2 00	1 50	1 00	50
No. 151.	Versaillaise, 24 bunches, four premiums	$2 00	1 50	1 00	50
No. 152.	White Dutch, 24 bunches, three premiums.....		1 50	1 00	50
No. 153.	White Grape, 24 bunches, three premiums		1 50	1 00	50
No. 154.	Other varieties, not scheduled, gratuity.				

RASPBERRY.—

No. 155.	Brincklé's Orange, one quart, three premiums		$1 50	1 00	50
No. 156.	Hornét, one quart, three premiums		1 50	1 00	50
No. 157.	Any other variety, one quart, gratuity.				

VEGETABLE.—

CABBAGE,

No. 158.	Brunswick, three specimens, three premiums		$1 50	1 00	50
No. 159.	Henderson, three premiums..... ...		1 50	1 00	50

SQUASH,

No. 160.	Three Summer Crookneck, two premiums,			1 00	50
No. 161.	Three Scallop, two premiums.....			1 00	50

TOMATO,

No. 162.	Any named variety, three premiums..	2 00	1 50	1 00	

Thursday, July 27.

BOUQUET,—PARLOR.—

No. 163.	AMATEUR,—four premiums	$3 00	2 00	1 00	50
No. 164.	FLORIST,—four premiums	3 00	2 00	1 00	50

PHLOX DRUMMONDI.—

No. 165.	Stand, four premiums	3 00	2 00	1 00	50

HOLLYHOCK.—

No. 166.	Twenty blooms in vase, four premiums	3 00	2 00	1 00	50

SWEET PEA.—

No. 167.	Stand, not exceeding twelve stems in a vial, four premiums	3 00	2 00	1 00	50

CUT FLOWERS.—NO RESTRICTIONS.—

No. 168.	Stand, four premiums	3 00	2 00	1 00	50

BLACKBERRY.—

No. 169.	Agawam, one quart, two premiums			1 00	50
No. 170.	Early Harvest, one quart, two premiums			1 00	50

GOOSEBERRY.—

No. 171. One quart, of any named variety, gratuity.

PEAR.—

No. 172.	D'Eté, three premiums	$1 50		1 00	50

VEGETABLE.—

BEAN—(shell),

No. 173.	Dwarf Horticultural, half-peck, three premiums	$1 50		1 00	50
No. 174.	Any other (named) variety, three premiums		1 50	1 00	50

CORN.

No. 175.	(Sweet), four premiums	2 00	1 50	1 00	50

POTATO,—12 specimens.

No. 176.	Hebron, three premiums		1 50	1 00	50
No. 177.	Polaris, three premiums		1 50	1 00	50
No. 178.	Potentate, three premiums		1 50	1 00	50
No. 179.	Rose, three premiums		1 50	1 00	50

Thursday, August 3.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 180. Twenty blooms, clusters, sprays or spikes, in vases, three premiums.... $3 00 2 00 1 00

NATIVE FLOWERS.—

No. 181. Stand,—no restrictions, four premiums 3 00 2 00 1 00 50

BASKET,—NO RESTRICTIONS.—

No. 182. AMATEUR,—four premiums 3 00 2 00 1 00 50

No. 183. FLORIST,—four premiums 3 00 2 00 1 00 50

APPLE.—

No. 184. Any variety, gratuity.

PEAR.—

No. 185. Any variety, not scheduled, gratuity.

BLACKBERRY.—

No. 186. Kittatinny, one quart, two premiums. $1 00 50

No. 187. Snyder, one quart, two premiums 1 00 50

No. 188. Wachusett, one quart, two premiums 1 00 50

No. 189. Other varieties, not scheduled, gratuity.

VEGETABLE.—

CORN,

No. 190. Crosby, three premiums..... $2 00 1 50 1 00

CUCUMBER,

No. 191. Three specimens, two premiums 1 00 50

TOMATO,

No. 192. Acme, three premiums.. .. .. 1 50 1 00 50

Thursday, August 10.

ANTIRRHINUM,—SNAP DRAGON.—

No. 193. Stand, four premiums..... ...$3 00 2 00 1 00 50

GERMAN STOCKS.—

No. 194. Stand, four premiums 3 00 2 00 1 00 50

PINK.—(ALL KINDS).—

No. 195.	Stand, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 196.	Astrachan, four premiums	$2 00	1 50	1 00	50
No. 197.	Sweet Bough, three premiums		1 50	1 00	50
No. 198.	Tetofsky, three premiums		1 50	1 00	50

PEAR.—

No. 199.	Giffard, four premiums	2 00	1 50	1 00	50

PEACH.—

No. 200. Any variety, gratuity.

VEGETABLE.—

BEAN (shell),

No. 201.	Concord, half-peck, in pods, three premiums	$1 50	1 00	50	

TOMATO,

No. 202.	Livingston's Perfection, three premiums.	1 50	1 00	50	

Thursday, August 17.

CUT FLOWERS.—No restrictions.

No. 203.	Stand, four premiums	$3 00	2 00	1 00	50

GLADIOLUS.—(DISTINCT VARIETIES),—NAMED.

No. 204.	Twenty vases, 1 spike in each, four premiums	4 00	3 00	2 00	1 00

SALPIGLOSSIS.—

No. 205.	Stand, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 206.	Oldenburg, four premiums	$2 00	1 50	1 00	50
No. 207.	Any variety, not scheduled, gratuity.				

APRICOT.—

No. 208.	Any variety, two premiums			1 00	50

PEAR.—

No. 209.	Clapp, five premiums	3 00	2 00	1 50	1 00	50

PEACH.—

No. 210.	Alexander, three premiums	$1 50	1 00	50	
No. 211.	Beatrice, three premiums	1 50	1 00	50	
No. 212.	Cole's Early Red, three premiums	1 50	1 00	50	
No. 213.	Rivers, three premiums	1 50	1 00	50	

VEGETABLE.—

CORN,

No. 214. (Sweet), 12 ears, of not less than 12 rows, three premiums $1 50 1 00 50

SQUASH,

No. 215. Marrow, 3 specimens, three premiums .. 1 50 1 00 50

TOMATO,

No. 216. Beauty, three premiums 1 50 1 00 50

Thursday, August 24.

ASTER.—

No. 217. Rose, 20 vials, 1 bloom in each, three premiums $2 00 1 00 50

No. 218. Comet, 20 vials, 1 bloom in each, three premiums 2 00 1 00 50

No. 219. Victoria, 20 vials, 1 bloom in each, three premiums 2 00 1 00 50

No. 220. POMPON, stand, one spray of not more than 6 blooms in each vial, four premiums 3 00 2 00 1 00 50

No. 221. TRUFFAUT, — PÆONY-FLOWERED, stand, 3 blooms in each vial, four premiums 3 00 2 00 1 00 50

No. 222. Large vase of blooms, all of one color, three premiums 2 00 1 00 50

GLADIOLUS,—HARDY,—LEMOINE'S HYBRIDS.

No. 223. Twenty vases, one spike in each, four premiums 3 00 2 00 1 00 50

PHLOX—PERENNIAL.—

No. 224. Twenty vases, four premiums 3 00 2 00 1 00 50

APPLE.—

No. 225. Somerset, three premiums $1 50 1 00 50

No. 226. Williams, four premiums 2 00 1 50 1 00 50

PEAR.—

No. 227. Rostiezer, three premiums 1 50 1 00 50

No. 228. Tyson, three premiums 1 50 1 00 50

PEACH.—

No. 229. Hale, three premiums 1 50 1 00 50

VEGETABLE.—

BEAN—(HALF-PECK IN POD.)—

No. 230. Horticultural (pole), three premiums .. $1 50 1 00 50

No. 231. Goddard, three premiums 1 50 1 00 50

SQUASH—TURBAN.

No. 232. Three specimens, three premiums 2 00 1 50 1 00

Thursday, August 31.

SCABIOSA.—

No. 233. Stand, not exceeding six flowers in a vial, four premiums $3 00 2 00 1 00 50

ZINNIA.—

No. 234. Stand, at least twelve varieties, one flower in a vial, four premiums 3 00 2 00 1 00 50

LILIUM SPECIOSUM.—

No. 235. Display in vases, four premiums. 3 00 2 00 1 00 50

MARIGOLD.—

No. 236. Stand, four premiums 3 00 2 00 1 00 50

BEGONIA—(Tuberous Rooted)—in bloom.—

No. 237. Four plants, four premiums..... 3 00 2 00 1 00 50

No. 238. Display, 25 vases, four premiums 3 00 2 00 1 00 50

APPLE.—

No. 239. Any variety, not scheduled, gratuity.

APPLE,—(Crab).—

No. 240. Transcendent, 24 specimens, three premiums $1 50 1 00 50

NECTARINE.—

No. 241. Any variety, two premiums..... 1 00 50

PEAR.—

No. 242. Assomption, three premiums 1 50 1 00 50

No. 243. Petite Marguerite, three premiums 1 50 1 00 50

PEACH.—

No. 244. Cooledge, three premiums. 1 50 1 00 50

No. 245. Foster, three premiums 1 50 1 00 50

No. 246. George IV., three premiums 1 50 1 00 50

No. 247. Richmond, three premiums 1 50 1 00 50

PLUM.—

No. 248. Bradshaw, three premiums 1 50 1 00 50

No. 249. McLaughlin, three premiums 1 50 1 00 50

No. 250. Washington, three premiums 1 50 1 00 50

VEGETABLE.—

Lima Bean,

No. 251. Large, half-peck, three premiums $1 50 1 00 50

Cauliflower,

No. 252. Three specimens, three premiums 2 00 1 50 1 00

Tomato,

No. 253. Any variety, not scheduled, three premiums 1 50 1 00 50

Thursday, September 7.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P. M., to hear motions, determine appeals, and act upon business properly submitted.*

CUT FLOWERS.—

No. 254.	Stand,—no restrictions, four premiums	$3 00	2 00	1 00	50

BOUQUET,—(PARLOR).—

No. 255.	AMATEUR,—four premiums	3 00	2 00	1 00	50
No. 256.	FLORIST,—four premiums	3 00	2 00	1 00	50

DAHLIA.—

LARGE FLOWERED,

No. 257.	Twenty vases, one flower in each, four premiums	3 00	2 00	1 00	50

POMPON,

No. 258.	Twenty vases, one spray in each, four premiums	3 00	2 00	1 00	50

NASTURTIUM AND TROPÆOLUM.—

No. 259.	Stand, not more than 12 blooms in each bottle, four premiums	3 00	2 00	1 00	50

CLEMATIS.—

No. 260.	Display, in vases, two premiums			2 00	1 00

VERBENA.—

No. 261.	Stand, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 262.	Golden Sweet, three premiums		$1 50	1 00	50
No. 263.	Worcester Spy, three premiums		1 50	1 00	50
No. 264.	Yellow Transparent, three premiums		1 50	1 00	50
No. 265.	Other varieties, not scheduled, gratuity.				

PEAR.—

No. 266.	Ansault, three premiums		1 50	1 00	50
No. 267.	Earle's Bergamot, three premiums		1 50	1 00	50
No. 268.	St. Ghislain, four premiums	2 00	1 50	1 00	50

PEACH.—

No. 269.	Crawford (Early), three premiums		1 50	1 00	50

PLUM.—

No. 270.	Gen. Hand, three premiums		1 50	1 00	50
No. 271.	Imperial Gage, three premiums		1 50	1 00	50
No. 272.	Victoria, three premiums		1 50	1 00	50

VEGETABLE.—

CUCUMBER—for pickles,

No. 273.	Half-peck, three premiums		$1 50	1 00	50

CORN,

No. 274.	(Sweet), 12 ears, of not less than 12 rows, three premiums	1 50	1 00	50

PEPPER,—12 specimens.

No. 275.	Large Bell, two premiums		1 00	50
No. 276.	Mammoth, two premiums		1 00	50
No. 277.	Squash, two premiums		1 00	50

Thursday, September 14.

CUT FLOWERS,—DISTINCT VARIETIES.—

No. 278.	Twenty vases, one bloom, cluster, spray or spike in each, four premiums	$3 00	2 00	1 00	50

GERANIUM,—Display, no duplicates, one truss in a vase.

No. 279.	Four premiums	3 00	2 00	1 00	50

PANSY,—WITH FOLIAGE.—

No. 280.	Stand, one stem in each vial, four premiums	3 00	2 00	1 00	50

DAHLIA,—SINGLE.—

No. 281.	Twenty vases, one spray in each, three premiums	1 50	1 00	50	

GLADIOLUS,—Display in vases, no duplicates.

No. 282.	Four premiums	3 00	2 00	1 00	50

APPLE.—

No. 283.	Foundling, three premiums	$1 50	1 00	50	
No. 284.	Garden Royal, three premiums	1 50	1 00	50	
No. 285.	Holden, three premiums	1 50	1 00	50	

PEAR.—

No. 286.	Bartlett, five premiums	3 00	2 00	1 50	1 00	50
No. 287.	Lucrative, three premiums	1 50	1 00	50	
No. 288.	Pratt, three premiums	1 50	1 00	50	

PLUM.—

No. 289.	Fellenberg, three premiums	1 50	1 00	50	
No. 290.	Jefferson, three premiums	1 50	1 00	50	
No. 291.	Lombard, three premiums	1 50	1 00	50	
No. 292.	Monroe, three premiums	1 50	1 00	50	
No. 293.	Quackenboss, three premiums	1 50	1 00	50	

PEACH.—

No. 294.	Oldmixon, three premiums	1 50	1 00	50	

GRAPE.—

No. 295.	Moore, three clusters, three premiums	1 50	1 00	50	
No. 296.	Grown under glass, three clusters, three premiums	3 00	2 00	1 00	

MELON.—

No. 297.	Green Flesh, three specimens, two premiums..		1 00		50
No. 298.	Yellow Flesh, three specimens, two premiums..		1 00		50
	WATER,				
No. 299.	Two specimens, two premiums.....		1 00		50

VEGETABLE.—

	CABBAGE,				
No. 300.	Brunswick, three specimens, three premiums	$1 50	1 00		50

Thursday, September 21.

ASTER.—

No. 301.	Forty vases, four premiums.....	$3 00	2 00	1 00	50

CUT FLOWERS,—(BASKET).—No restrictions.

No. 302.	AMATEUR,—four premiums	3 00	2 00	1 00	50
No. 303.	FLORIST,—four premiums	3 00	2 00	1 00	50

CUT FLOWERS,—STAND.—No restrictions.

No. 304.	Four premiums	3 00	2 00	1 00	50

APPLE.—

No. 305.	Gravenstein, five premiums,	$3 00	2 00	1 50	1 00	50
No. 306.	Maiden's Blush, three premiums.....		1 50	1 00	50
No. 307.	Porter, three premiums.....		1 50	1 00	50
	APPLE,—CRAB.				
No. 308.	Hyslop, twenty-four, two premiums		1 00		50

PEAR.—

No. 309.	Durandeau, three premiums...		1 50	1 00	50
No. 310.	Paradis d'Automne, four premiums,	2 00	1 50	1 00	50
No. 311.	Other varieties, not scheduled, gratuity.				

PEACH.—

No. 312.	Crawford (late), three premiums.....		1 50	1 00	50
No. 313.	New Seedling, originated in Worcester County, four premiums.....	2 00	1 50	1 00	50
No. 314.	Stump the World, three premiums.....		1 50	1 00	50
No. 315.	Other varieties, not scheduled, gratuity.				

PLUM.—

No. 316.	Coe's Golden Drop, three premiums		1 50	1 00	50
No. 317.	Reine Claude de Bavay, three premiums.		1 50	1 00	50

GRAPE.—

No. 318.	Brighton, three clusters, three premiums.		1 50	1 00	50
No. 319.	Lady, three clusters, three premiums.. .		1 50	1 00	50
No. 320.	Lindley, three premiums		1 50	1 00	50
No. 321.	Massasoit, three clusters, three premiums,		1 50	1 00	50
No. 322.	Worden, three clusters three premiums..		1 50	1 00	50

VEGETABLE.—

	CARROT,				
No. 323.	Any variety, three premiums.....	$1 50	1 00		50

EGG PLANT,

No. 324.	Three specimens, three premiums	2 00	1 00	50	

CABBAGE,

No. 325.	Red, three specimens, three premiums	1 50	1 00	50	
No. 326.	Savoy, three specimens, three premiums	1 50	1 00	50	

CAULIFLOWER.—

No. 327.	Three specimens, four premiums	2 00	1 50	1 00	50

Thursday, September 28.

CUT FLOWERS,—(BASKET.)—No restrictions.

No. 328.	AMATEUR,—four premiums	$3 00	2 00	1 00	50
No. 329.	FLORIST,—four premiums	3 00	2 00	1 00	50

CUT FLOWERS,—(STAND.)—No restrictions.

No. 330.	Four premiums	3 00	2 00	1 00	50

APPLE.—

No. 331.	American Beauty, three premiums	$1 50	1 00	50	
No. 332.	Lyscom, three premiums	1 50	1 00	50	
No. 333.	McLellan, three premiums	1 50	1 00	50	
No. 334.	Mother, three premiums	1 50	1 00	50	
No. 335.	Twenty-Ounce, three premiums	1 50	1 00	50	

PEAR.—

No. 336.	Buffum, two premiums		1 00	50	
No. 337.	Hardy, three premiums	1 50	1 00	50	
No. 338.	Louise Bonne de Jersey, five premiums	3 00	2 00	1 50	1 00	50
No. 339.	Seckel, five premiums	3 00	2 00	1 50	1 00	50
No. 340.	St. Michel Archange, two premiums		1 00	50	
No. 341.	Superfin, three premiums	$1 50	1 00	50	
No. 342.	Urbaniste, three premiums	1 50	1 00	50	
No. 343.	Washington, three premiums	1 50	1 00	50	

PEACH.—

No. 344. Any variety, gratuity.

GRAPE.—

No. 345.	Concord, three clusters, four premiums	2 00	1 50	1 00	50
No. 346.	Delaware, four premiums	2 00	1 50	1 00	50
No. 347.	Iona, three premiums	1 50	1 00	50	
No. 348.	Niagara, two premiums		1 00	50	
No. 349.	Pocklington, two premiums		1 00	50	
No. 350.	Salem, three premiums	1 50	1 00	50	
No. 351.	Wilder, three premiums	1 50	1 00	50	

No. 352. Any variety, not scheduled, gratuity.

VEGETABLE.—

No. 353.	Collection, not exceeding fifty varieties, four premiums	$8 00	6 00	4 00	2 00

Thursday, October 5.

☞ *The* COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS *will meet at 3½ o'clock P M., to hear motions, determine appeals and act upon business properly submitted.*

CUT FLOWERS.—

No. 354.	Hand Bouquet, not to exceed nine in. in diameter, four premiums..	$3 00	2 00	1 00	50
No. 355.	Stand, no restrictions, four premiums	3 00	2 00	1 00	50

APPLE.—

No. 356.	Coggswell, three premiums..		1 50	1 00	50
No. 357.	Fameuse, three premiums.		$1 50	1 00	50
No. 358.	Hubbardston, four premiums. ...	2 00	1 50	1 00	50
No. 359.	Washington Strawberry. two premiums.			1 00	50
No. 360.	Other varieties, not scheduled, gratuity.				

PEAR.—

No. 361.	Bosc. five premiums.....	$3 00	2 00	1 50	1 00	50
No. 362.	Dr. Reeder, three premiums.			1 50	1 00	50
No. 363.	Sheldon, five premiums ...	3 00	2 00	1 50	1 00	50
No. 364.	Other varieties, not scheduled, gratuity.					

GRAPE,—OPEN CULTURE.—

No. 365.	Any variety, three clusters, gratuity.				

QUINCE.—

No. 366.	Champion, three premiums....		$1 50	1 00	50
No. 367.	Orange, four premiums	3 00	2 00	1 50	1 00
No. 368.	Other varieties, gratuity.				

VEGETABLE.—

POTATO,

No. 369.	Six varieties (named), 12 specimens of each, four premiums..	$3 00	2 00	1 50	1 00

SQUASH,

No. 370.	Essex-Hybrid, three premiums.....		$1 50	1 00	50
No. 371.	Marblehead, three premiums.....		1 50	1 00	50
No. 372.	Any variety, not scheduled, three premiums		1 50	1 00	50

CELERY,

No. 373.	Six specimens, three premiums		2 00	1 00	50

Thursday, October 12.

CUT FLOWERS—(BASKET).—No restrictions.

No. 374.	Four premiums	$3 00	2 00	1 00	50

APPLE.—

No. 375.	Belleflower, three premiums		$1 50	1 00	50
No. 376.	Leicester Sweet, three premiums.....		1 50	1 00	50
No. 377.	Sutton Beauty, three premiums		1 50	1 00	50
No. 378.	Tompkins King, four premiums...	2 00	1 50	1 00	50

No. 379. Wealthy, three premiums 1 50 1 00 50
No. 380. Other varieties (named), not scheduled, gratuity.

PEAR.—
No. 381. Dix, three premiums $1 50 1 00 50
No. 382. Frederick Clapp, two premiums..... 1 00 50
No. 383. Marie Louise, three premiums 1 50 1 00 50
No. 384. Onondaga, three premiums..... 1 50 1 00 50

GRAPE.—
No. 385. Diana, three clusters, four premiums $2 00 1 50 1 00 50

VEGETABLE.—
No. 386. Kohl Rabi, six specimens, three premiums $1 50 1 00 50

Onion,
No. 387. Red Globe—Half-peck, three premiums. 1 50 1 00 50
No. 388. Yellow Danvers—Half-peck, three premiums 1 50 1 00 50

Salsify,
No. 389. Three premiums 1 50 1 00 50

Endive,
No. 390. Six heads, three premiums 1 50 1 00 50

Squash,
No. 391. Hubbard, three specimens, three premiums 1 50 1 00 50

Thursday, October 19.

CUT FLOWERS.—
No. 392. In any form, a gratuity.

APPLE.—
No. 393. Peck, three premiums.....$1 50 1 00 50
No. 394. Pound Sweet, three premiums 1 50 1 00 50
No. 395. R. I. Greening, five premiums 3 00 2 00 1 50 1 00 50
No. 396. Other varieties, not scheduled, gratuity.

PEAR.—
No. 397. Anjou, five premiums 3 00 2 00 1 50 1 00 50
No. 398. Comice, five premiums.... 3 00 2 00 1 50 1 00 50
No. 399. Diel, three premiums 1 50 1 00 50

VEGETABLE.—

Squash,
No. 400. Bay State, three specimens, three premiums $1 50 1 00 50
No. 401. Butman, three specimens, three premiums 1 50 1 00 50

BRUSSELS SPROUTS.—

No. 402.	Half-peck, three premiums	1 50	1 00	50

POTATO.—

No. 403.	Seedling originated in Worcester County, grown by the exhibitor, three premiums	5 00	3 00	2 00

Thursday, October 26.

POT PLANTS,—IN BLOOM.—

No. 404. Gratuity.

APPLE.—

No. 405.	Baldwin, six premiums	$4 00	3 00	2 00	1 50	1 00	50
No. 406.	Canada Red (Old Nonesuch), three premiums				1 50	1 00	50
No. 407.	Golden Russet, three premiums				1 50	1 00	50
No. 408.	Golden Russet, sweet, two premiums					1 00	50
No. 409.	Golden Russet of Mass., three premiums				1 50	1 00	50
No. 410.	Ladies' Sweet, two premiums					1 00	50
No. 411.	Lemon Greening, two premiums					1 00	50
No. 412.	McIntosh, two premiums					1 00	50
No. 413.	Northern Spy, five premiums		3 00	2 00	1 50	1 00	50
No. 414.	Palmer, three premiums				1 50	1 00	50
No. 415.	Red Russet, three premiums				1 50	1 00	50
No. 416.	Roxbury Russet, four premiums		2 00		1 50	1 00	50
No. 417.	Collection, not to exceed ten varieties, four premiums		5 00	3 00	2 00	1 00	

PEAR.—

No. 418.	Angoulême, four premiums	$2 00		1 50	1 00	50
No. 419.	Clairgeau, three premiums			1 50	1 00	50
No. 420.	Dana's Hovey, four premiums		2 00	1 50	1 00	50
No. 421.	Josephine de Malines, three premiums			1 50	1 00	50
No. 422.	Langelier, three premiums			1 50	1 00	50
No. 423.	Lawrence, five premiums		3 00	2 00	1 50	1 00	50
No. 424.	Mount Vernon, two premiums					1 00	50
No. 425.	Winter Nelis, five premiums,		3 00	2 00	1 50	1 00	50

VEGETABLE.—

CELERIAC,

No. 426.	Six specimens, three premiums	$1 50	1 00		50

CELERY,

No. 427.	Six specimens, four premiums	4 00	3 00	2 00	1 00

TURNIP,

No. 428.	White Egg, three premiums	1 50	1 00		50
No. 429.	Purple Top, strap leaf, three premiums	1 50	1 00		50

CHRYSANTHEMUM.

TENTH SPECIAL EXHIBITION

ON

Wednesday, November 8th,

AND

Thursday, November 9th, 1893.

[N. B. All the specimens placed in competition must be from the best types, and owned and grown by the competitor three months.]

No 1. For the best six Chinese, or large-flowered, in pots,—distinct named varieties, four premiums. .....
$8 00 6 00 5 00 4 00

No. 2. For the best six Japanese, in pots, distinct named varieties, four premiums .....
$8 00 6 00 5 00 4 00

No. 3. For the best three plants, in pots, from Amateurs,—distinct (not named), four premiums .....
$5 00 3 00 2 00 1 00

No. 4. For the best display, in pots, any variety, four premiums .....
$12 00 10 00 8 00 6 00

No. 5. For Specimen Plant, of any variety, four premiums..
$4 00 3 00 2 00 1 00

No. 6. Best 6 Plants, in pots, grown to single blooms, four premiums .....
$4 00 3 00 2 00 1 00

No. 7. For twelve Cut Blooms, named, with long stems and foliage, in vases, four premiums .....
$5 00 4 00 3 00 2 00

No. 8. For six Cut Blooms, named, with long stems and foliage, in vases, three premiums.....
$3 00 2 00 1 00

No. 9. For twenty-four sprays, named, not less than twelve varieties, in vases, four premiums.....
$5 00 4 00 3 00 2 00

No. 10. For one Cut Bloom, named, with long stem and foliage, three premiums.... .....
$3 00 2 00 1 00

No. 11. For Vase, of not to exceed ten blooms, of one variety, four premiums..... .....
$4 00 3 00 2 00 1 00

No. 12. For Vase, of not to exceed ten blooms, mixed varieties, four premiums .....
$4 00 3 00 2 00 1 00

Gratuities may be awarded for meritorious exhibits.

No. 13. Fern, one plant, gratuity.

No. 14. Palm, one plant, gratuity.

No. 15. Decorative and Ornamental Plants, gratuity.

☞ This Exhibition will be open to the public from 2 P. M. until 9 P. M., Wednesday, and from 10 A. M. until 9 P. M., Thursday.

ADMISSION 10 CENTS.

N. B. All articles intended for this Special Exhibition, must be in the Hall, and ready for inspection by the Judge by 12 o'clock M., precisely, of the first day of the Exhibition.

By authority of the

COMMITTEE ON ARRANGEMENTS AND EXHIBITIONS.

Attest:

EDWARD WINSLOW LINCOLN,

Secretary.

OFFICERS AND COMMITTEES
OF THE
WORCESTER COUNTY HORTICULTURAL SOCIETY,
FOR THE YEAR 1892-93.

PRESIDENT:
HENRY L. PARKER, of Worcester.

VICE-PRESIDENTS:
STEPHEN SALISBURY, of Worcester; GEORGE E. FRANCIS, of Worcester; O. B. HADWEN, of Worcester.

SECRETARY:
EDWARD WINSLOW LINCOLN, of Worcester.

TREASURER:
NATHANIEL PAINE, of Worcester.

LIBRARIAN:
ADIN A. HIXON, of Worcester.

TRUSTEES (BY ELECTION):

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O. B. Wyman,	Shrewsbury.	David L. Fiske,	Grafton.
Charles E. Parker,	Holden.	Henry B. Watts,	Leicester.
Frederick A. Blake,	Rochdale.	Edward L. Davis,	Worcester.
James F. Allen,	Worcester.	Henry Reed,	"
Henry Woodward,	"	James Draper,	"
William T. Merrifield,	"	F. M. Marble,	"
William H. Earle,	"	Luther R. Eames,	"
H. M. Quinby,	"	Calvin L. Hartshorn,	"
Frank J. Kinney,	"	Joseph Lovell,	"
Alden Rice,	"	Frederic G. Stiles,	"
John D. Lovell,	"	John Midgley,	"
George F. Hoar,	"	S. H. Record,	"
George Calvin Rice,	"	Adin A. Hixon,	"
William Eames,	"	Simon E. Fisher,	"
Sylvanus Sears,	"	John L. Peters,	"
Joseph Brierly,	"	William J. Wheeler,	"
Charles Greenwood,	"	Mrs. John H. Coes,	"
Arthur J. Marble,	"	Mrs. T. L. Nelson,	"
Samuel Flagg,	"	Mrs. Thomas Ward,	"
Edward Hall,	"	Mrs. F. H. Merrifield,	"
H. F. A. Lange,	"		

STANDING COMMITTEES.

ON FINANCE:
Edward W. Lincoln, 1894. George E. Francis, 1893. Nathaniel Paine, 1895.

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ON NOMENCLATURE:
James F. Allen, George E. Francis, Hermann F. A. Lange, O. B. Hadwen.
James Draper, F. M. Marble, Charles Greenwood, Edward W. Lincoln.

ON ARRANGEMENTS AND EXHIBITIONS;
James Draper, *Chairman.*
Calvin L. Hartshorn, Hermann F. A. Lange, O. B. Hadwen,
Adin A. Hixon, Charles Greenwood, F. M. Marble, O. B. Wyman,
Charles E. Parker, William H. Earle, H. B. Watts, J. L. Peters,
George C. Rice, Edward Hall, William H. Johnson, with
President Parker, and *Secretary* Lincoln.

AUDITORS.
Henry L. Parker, George Calvin Rice.

JUDGES.
ON FLOWERS, PLANTS, ETC.:
William H. Johnson.

ON FRUITS, ETC.:
James Draper.

ON VEGETABLES, ETC.
Charles Greenwood.